

The womb as a classroom

Our health, emotional responses, intelligence and even our artistic talents are laid down in the 9 months between conception and birth



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Even before a person is born, they are equipped with crucial knowledge of the world. They have gained that knowledge through the mother, who serves as a medium "transmitting" via biochemical signals information from the outside world. Everything the mother eats and the emotions she experiences influence the child and long before it is born into this world, the baby is prepared for some situations. The latest research in prenatal psychology sheds light on the experience we gain during the nine months spent in our mother's womb.

There are two branches of psychology, which have only recently become autonomous, dedicated to the study of our earliest experiences. Prenatal psychology focuses on the experience we gain during the 9 months spent in the womb, from conception to birth. Perinatal psychology deals with the experience acquired during the delivery itself and immediately after that.

It turns out that this earliest experience is rich and varied- it stores knowledge and emotions that have been remembered completely unconsciously, but which are so deeply and permanently rooted into our very foundations that they define who we are to a great extent. Some of what we have learnt may never emerge into conscious memory. It will rather remain forever or at least a long time buried in the unconscious. That is the treacherous drawback of this type of "memory" – once stored, it affects us, without us being aware of it. For better or for worse.

What we know about the world since before we are born

Until recently, an infant was widely viewed as a being unencumbered by any knowledge: an empty vessel to be filled after birth. But do we really come into this world without any "luggage" ?

Over the last few years, science has proven that even while we are still in our mother's womb, we acquire knowledge which will have significant impact on our entire lives. We are also greatly affected by the way in which we are born. With the advances in medical imaging and other methods of monitoring and analysis, we have gathered an incredible amount of data concerning intrauterine life.

It appears to be much more conscious than previously thought. Ultrasound imaging has shown that the unborn child reacts surprisingly adequately to provocations from the outside world, particularly when they concern it directly. During amniocentesis (a procedure during which a needle is inserted through the abdominal wall into the uterus to extract amniotic fluid for analysis) the baby appears to be retreating in fear and even attempting to push back the alien object; this is not a coincidence, but a standard reaction of the foetus as it has been observed on numerous occasions. It is clear, therefore, that the unborn child responds to stimuli, but can it also remember and accumulate knowledge?

If we already possess the ability to remember even before birth, how come we have no memory of our lives inside the uterus or of an event as dramatic as our own birth? Why are we not able to recall memories of those moments at will? These are logical questions. But do we really recall nothing? Or have those memories become such an intrinsic part of our Self that we fail to recognise them as such?



Parents' love is propitious for the unborn child in both physical and emotional way

THE MEMORY OF THE UNBORN

It is true that few people have conscious memories of the time before they were three. However, some children seem to be able to spontaneously 'recall' glimpses of their birth, but they are only able to share those experiences once they begin to talk. Long before that those memories can be communicated without words - through drawings, through acting out certain scenes, through pointing at certain body parts, vocalizations and even through the intensity with which the newly born sucks on the feeding bottle. If there is some recollection, whether conscious or not, there is, undoubtedly, the capacity for memory.

'Learning and memory are interlocked: learning depends on memory, and learning is evidence of memory. Memory is the quintessence of human experience without which we cannot make progress, cannot learn from experience, and cannot develop a personal identity.' says Dr. David Chamberlain, author of many scientific research articles and publications including his remarkable book, *The Mind of Your Newborn Baby*.

In another of his works (*Babies Remember Birth*) he presents his experimental research proving the existence of prenatal memory. Chamberlain has proven that during its inter-uterine life the child collects and processes the information which reaches it; it is also gaining in experience and is constantly learning from it in the same way as an adult. Chamberlain comes under strong criticism by his opponents on the grounds that the brain of the unborn child was not developed enough to support complex mental processes such as memory, thought and cognition. To this Chamberlain replies, "In retrospect, brain experts made one of the classical errors of science by dissecting the brain to find out how it works. The problem is that the brain works properly only if it is whole. Separate parts are not the system. Most serious was the error of severing the brain from its connection with two other systems, the endocrine and immune systems. [...] Current research shows all three are elegantly linked in one fluid central intelligence system".

The brain is not the sole 'residence' of memory. There have been more and more arguments supporting the theory that memory occurs even at cellular level. The body remembers! That is why even unborn children have the capacity to learn. A large amount of irrefutable evidence has been accumulated over the years showing that children already know a lot at birth. Here follows some of that evidence:

In-MOTHER TONGUE

Babies start to learn their mother tongue even as they are still in the womb. An experiment was conducted, which showed that babies born in France would turn towards a speaker who used French, whereas babies born in Russia would turn to a Russian speaker. Newly-born babies are not only able to recognise their own language but they have also acquired beforehand the intonation characteristic of that language. After birth, French babies cry with an ascending intonation, whereas German babies – with a descending one.

The intonational, rhythmic and vocal properties of the mother tongue have been detected even in the cries of prematurely delivered infants, born in the twenty-sixth week of the pregnancy; this would indicate that those language properties are acquired by the foetus at even earlier stages. The researchers who conducted the experiment believe that being able to recognize one's mother tongue while still in the womb gives the newly born a decisive head start on language acquisition and thus helps babies adapt more quickly to their language environment.

GOOD TO EAT

The infant is familiar with the local cuisine. In the seventh month of the pregnancy the foetus' ability to perceive and distinguish between tastes and smells is already fully developed. A large variety of chemicals, including those contained in the mother's food, pass through the placenta and end in the amniotic fluid ingested by the foetus. Others reach it through the blood stream connecting mother and child. The amniotic fluid is often flavoured by what the mother eats. By swallowing it, the baby becomes familiar with their tastes and aromas. After birth it can not only recognise them but it also prefers them

over others. A survey was conducted on a group of pregnant women in a French town where a lot of anise-flavoured food is consumed. Their babies can already recognize its taste on the first day after their birth and it seems not to irritate them, but rather the opposite. The babies from the control group, though, reacted with disgust.

Such observations have led scientists to believe, that the mother teaches her child what is safe and good to eat and what is not, while it still in the womb. A child whose mother consumed a lot of garlic during the pregnancy is able to recognise the mother's milk among other samples with ease. In other words, babies know in advance what their mother's milk could taste like. That is why drastic and abrupt changes in the mother's diet can be confusing to children and even put them off natural breastfeeding. By getting used to the tastes and flavours typical of the local cuisine, babies are actually preparing for the cultural environment they will be born in, since food is among the most definite manifestations of cultural specifics.



tips for future mothers

- Listen to your body, take care of it, pamper it with massages and do sports in moderation.
- Be certain to have plenty of positive emotions. Take a positive view of life.
- Communicate with the baby in your womb, talk and sing to it so that it can learn to recognize your voice. Allow the daddy to take part in this communication as well. Create a world for all three of you starting now.

- Radiate love towards your child, tell it you love it. It will understand and learn how to love.
- Look at beautiful things, listen to nice music and seek aesthetics and harmony in everything around you. The beauty you take in will enrich the soul of your child as well.
- Dream of what qualities you would like your child to have. With your thoughts you can model its character as well.
- Be careful what you eat! Researchers believe that the diet of the pregnant woman can directly influence the child's future abilities. Foods rich in omega 3 fatty acids, such as seafood, are associated with greater verbal intelligence and better social skills among children of school age. Meanwhile, foods which contain poisons, contaminants and heavy metals are deemed responsible not only for congenital malformations, but also for lower intelligence.

MAIL FROM THE HEREAFTER

The mother signals her unborn child about the challenges it is going to face in the environment it is to be born in. In that way she informs the child about its chances of survival and helps the baby to adapt in such a way as to improve those chances. In the words of science populariser Annie Murphy Paul, the mother sends to her child "biological postcards from the world outside" with tales from the future. But what would happen, though, if the mother were to tell a 'wrong' tale and in doing so unwillingly misled the child?

The winter of 1945 will forever remain in Dutch history as the 'Hunger winter'. The Germans had occupied the western part of the country and have cut off food supplies. A great famine followed with people even resorting to eating the bulbs of tulips. During the siege an estimated 40,000 pregnant women were starving alongside everybody else. Some of the damage inflicted became apparent soon afterwards - premature births, high mortality rates among infants, low weight at birth, frequent malformations, etc. Another type of damage revealed itself much later, when those babies had grown to become adults. Incidence rates of diabetes, heart disease, high blood pressure and obesity were notably higher than average among people born in western Netherlands during the Hunger winter.

Not long after that researchers established a connection between malnutrition in the womb and disease later in life. „The fetuses are making the best of a bad situation. When food is scarce, they divert nutrients towards the really critical organ, the brain, and away from other organs like the heart and liver. This keeps the fetus alive in the short-term, but the bill comes due later on in life when those other organs, deprived early on, become more susceptible to disease. But that may not be all that's going on. It seems that fetuses are taking cues from the intrauterine environment and tailoring their physiology accordingly. They're preparing themselves for the kind of world they will encounter on the other side of the womb.

The fetus adjusts its metabolism and other physiological processes in anticipation of the environment that awaits it. And the basis of the fetus' prediction is what its mother eats. The meals a pregnant woman consumes constitute a kind of story, a fairy tale of abundance or a grim chronicle of deprivation. This story imparts information that the fetus uses to organize its body and its systems - an adaptation to

prevailing circumstances that facilitates its future survival. Faced with severely limited resources, a smaller-sized child with reduced energy requirements will, in fact, have a better chance of living to adulthood.

The real trouble comes when pregnant women are, in a sense, unreliable narrators, when fetuses are led to expect a world of scarcity and are born instead into a world of plenty. This is what happened to the children of the Dutch "Hunger Winter." And their higher rates of obesity, diabetes and heart disease are the result.", Paul explains.



Conception – you reap what you sow

It is extremely important whether a person is conceived with love, by accident or with violence. This is not simply the process of merging two cells. It is the beginning of life, setting its entire future course, and even 'programming' certain qualities. Ancient Greeks recommended future parents to live healthy rational lives, to avoid excess consumption of alcohol and to eat in moderation. According to Plato, when children are conceived, no violence or injustice is to be committed as it imprints on both the bodies and the souls of the children and they will grow to become unhappy human beings. 'American psychiatrist Emerson has proven that aggressive and hostile behaviour towards the woman at the time of conception can traumatise the future child and lead to certain unwelcome personality traits such as masochism, hostility, hatred, self-derision etc.', psychologists Krassimira Kostadinova explains. According to yoga instructor Rositsa Bozhkova, parents should approach conception fully aware of the grave consequences the act could have as it can affect the child's future. Another extremely influential factor is the physical and mental state of the parents. Bozhkova gives India as an example; there certain traditions in this respect are still being observed. 'The most favourable time for conception is

determined by means of astrology. Mothers use special practices and mantras for cleansing the body. They repeat: 'Purify my womb, so it can become a pure home.' When they want to call a soul from a higher plane of existence they undertake a spiritual programme which can last up to two years before conception. The mental state of the father is also of great importance – through the recitation of mantras he can also call upon the right soul.'

BABY IT'S BAD OUT THERE

The mother signals her child whether the outside world is safe thus helping it to prepare. When on 11th September 2001 two airplanes high-jacked by Muslim terrorists crashed into the towers of the WTC in New York, there were 1700 pregnant women among the survivors. They lived through the terror and chaos; they inhaled the poisonous smoke and dust like everybody else. One year later scientists conducted an in-depth study of a group of women who survived the attack while pregnant.

According to the findings, a significant number of those women suffered from post-traumatic stress. In the children of those mothers the scientists found a specific genetic marker which is a sign of predisposition to post-traumatic stress. This could be observed mostly in those children whose mothers were in the final trimester of their pregnancy at the time of the attack. The mothers have passed on to their unborn children a predisposition towards posttraumatic stress. However, there is another side to this problem.

Post-traumatic stress is characterized by hyper-sensitivity to the environment and quickened reactions in the event of a threat. In an extreme situation that could save lives. In other words, the heritage the babies received from their traumatised moms could be seen as a useful prenatal adaptation to the high-risk environment in which they were about to enter. Even before the mother gave birth to her child, she sent a warning: 'Be careful, it is dangerous outside!' Research shows, however, that moderate stress during the course of the pregnancy has its advantages, since it has been linked to a faster development of the brain of the foetus.

LOOK WHO'S TALKING

Chamberlain tells of parents, who have been able to teach their yet unborn child to communicate with them through kicks. As it kicked, one of the parents would put a hand on the spot on the mother's belly and encouraged it to repeat with 'Kick, baby, kick.' Soon the parents were able to point to the baby where to kick and it would respond by kicking at the exact same spot. The unborn child can not only communicate with its parents but is also capable of remembering speech. After birth it reacts to already familiar phrases.

In an experiment Dr. Anthony DeCasper and his colleagues from the University of North Carolina asked mothers to frequently read to their unborn children verses from a well-known rhymed fairy tale. After birth, recordings of several different stories in verse, including the one the mothers had been asked to read, were played to the children. Children who were familiar with the fairy tale began to suck on their

bottles more intensively when they heard their mother's voice reading it. For the next stage of the experiment the feeding bottles were attached to a starting mechanism. The familiar extract recorded in the mother's voice would play, only when the babies sucked on their bottles with a certain intensity. Soon, the newly-born babies learnt how to play the recording.



THE CRYING GAME

The unborn child memorizes behaviour. Observations over a pair of twins in the twentieth week of the pregnancy showed, that they were not only communicating, but were also adopting certain behavioural patterns which they also displayed later in their infancy. While in the womb, they used specific gestures to communicate with each other: very often they would move and to stand cheek to cheek on both sides of the membrane which separated them.

When they were one year old, their favourite game was to lift the blanket between them and to touch cheeks through it. They would touch and tickle each other through the fabric and each time the game was accompanied by cooing and laughter; they were obviously experienced in this game and they particularly liked it. In medical literature, there is another frequently cited example: twin brothers in the fourth month of the pregnancy. One was more aggressive and dominating, the other one passive and yielding. When the naughtier twin pushed the shier one, the latter made no attempts to fight back for his space, but instead would cuddle pressed to the placenta. The twins displayed similar behaviour

during their childhood. When quarrelling, the shier one would simply run away and bury his head under the pillow.



Master Peter Deunov: "Sing to your children, so they can grow to become Human."

Nearly forty years before psychologists began to take interest in the prenatal period of development, Master Peter Deunov offered profound insight into its immense significance. In his system pedagogical system he placed great emphasis on prenatal upbringing as he believed it to be fundamental for a person's development. Here are some of his thoughts on the matter:

"A mother must teach her child while it is still in her womb. She can endow it with reason and intellect, give rise to noble feelings, strengthen its will. If she is too fearful, unreasonable and rash, how then can she offer anything noble to her child? If the pregnant woman experienced hard and burdening feelings, such as, for example, a desire to avenge, to steal, to kill, then the child which is about to be born will become a criminal.

If she is inspired by music, poetry and art – then all this she can pass on to her child. Sing to your children so they can grow to become Human. Sing to it, praise it with songs in your heart.

If emotions like hatred or envy pass through the soul of the pregnant woman all these feelings will be instilled into her child. What child will be born of that mother who is worried and troubled throughout her pregnancy?

The child will be weak and unable to face the hardships of life. A woman, while still pregnant, must teach her child how to eat. The food which the mother consumes and the way she consumes it have a huge impact on the child which is to be born. Food is one of the main factors contributing to its physical and mental wellbeing."

More in the book "New Understanding of Birth and Motherhood" by the Master Peter Deunov) Videlina Publishing House, Sofia, 2006

TEARS IN THE WOMB

According to some researchers, babies in the womb experience emotions which induce crying. According to others, crying would be impossible, since the foetus' lungs are not full of air needed to move the vocal cords in order to produce sound. However, there are ancient records and modern medicine sources confirming the existence of the so-called inter-uterine crying. Crying is among the strongest manifestations of emotion. Prenatal psychologists are already convinced that while in the womb the child can not only sense the mother's emotions but it also shares those emotions remembers them.

Russian researcher Olga Sokolova discovered that the dominating emotional state of the mother during the pregnancy determines whether the child would be predisposed to a certain type of emotional reaction. The survey was conducted on 40 mothers and their children. Firstly she valued each pregnant woman's emotions according to the scale of anxiety. Babies were also tested right after birth and when they were three and at six months old respectively. Sokolova evaluated their psychomotor development, muscle tonus, indicators of mental condition and dominant emotions. Following that, she compared the measurements to those of the mothers during the pregnancy.

It turns out that both the character and the emotional state of the mother are projected onto the child, for example fear and worry. Research has shown that the fourth, fifth and sixth months of the pregnancy are of the utmost importance when it comes to forming the child's emotional sphere; it is at that time that the structures in the brain responsible for the emotions, are being developed and differentiated most actively.

Further survey confirmed that if mothers suffer from depression during pregnancy, their children also show signs of depression to the same degree. Marie-Andree Bertin, prenatal psychologist, observed obvious correlations between the problems some children experienced and the way their mothers spent the pregnancy. She sums up the enormous significance of intra-uterine life saying that, during the pregnancy the foundations of a person's health, emotionality, manner of social interaction, intellectual capacity and even artistic talents are laid down.

Dr. David Chamberlain sums up that 'life in the womb is extremely active and interactive'. Our ability to learn is inherent from even before birth; our first abode – the womb – 'is, in fact, a classroom.'