A.P.P.A.
The Academy to Promote Prenatal Attachment
presents

BONDING-ORIENTED PREGNANCY SUPPORT (B.O.P.S.)

to Promote Prenatal Bonding
(with elements of Hidas' & Raffai's Bonding Analysis)

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Christa Balkenhol-Wright

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"The baby feels perceived and valued at a very early stage and can thus develop an independent personality. Due to this perception of its personality, it realises its self-esteem and consequently gains self-confidence. Through the intensive perception of the baby and the reflection of the pregnant woman's feelings, a "safe space" (safe container) is created. The baby feels respected and accepted as a person with all its needs so that a secure basis is created from the very beginning. This security in turn awakens the baby's interest in wanting to explore the world. The baby gains empowerment over itself and its environment. Maturation and development of the brain are being stimulated and the baby's health is being boosted from the very beginning through prenatal bonding. A secure foundation is laid to which the baby can take recourse throughout its life.“

Jenö Raffai

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INTRODUCTION

In this booklet I present a relatively new and not yet worldwide known, scientific method that enables pregnant women to experience a different kind of pregnancy and birth with the help of a method developed by two Hungarian psychoanalysts, Dr György Hidas and Dr Jeno Raffai - attachment analysis. They began their work and research in the 1980s and incorporated the findings of prenatal psychology and other scientific disciplines into their work.

I myself was very fortunate to have been trained in BA by Dr Raffai before he passed away in 2015.

I am a Certified Bonding Analyst and I have not only been accompanying pregnant women with this extraordinary and amazing method, but I have also been teaching it for some years now.

I will first introduce the Bonding Analysis method to you and then explain in more detail which elements I have added to this method thus creating a completely new concept which I call:

BONDING-ORIENTATED PREGNANCY SUPPORT (B.O.P.S.) TO PROMOTE PRENATAL BONDING.

I offer my training courses mainly to all professionals dealing with pregnancy and birth in the widest sense, i.e. midwives, doulas, gynaecologists, obstetricians, naturopaths, body therapists, social pedagogues, family therapists, to name but a few.

To reach more people worldwide I founded the **ACADEMY-TO-PROMOTE-PRENATAL-ATTACHMENT (APPA)** so that the knowledge about the importance of prenatal life and experience will be spread to a broader public and basically worldwide. Under the aegis of APPA, this booklet (the German edition is the original version) has been and is being translated into 14 languages so far. It is already available in English, French, Italian, Spanish and Hungarian. Further translations are under way in Turkish, Dutch, Polish, Portuguese, Greek, Slovenian, Danish and Arabic. Most of these translations have been done by former course participants! I would like to take this opportunity to express my heartfelt thanks to all of them for their wonderful support. With their work, they are helping to ensure that more and more pregnant women and their babies can benefit from the **B.O.P.S**. method!

I teach **B.O.P.S**. so that those who have learnt this method would become multiplicators and help pregnant women all over the world by accompanying them with **B.O.P.S**. so that they live a different pregnancy and birth with the help of an intensive and deep bonding.

The classical Bonding Analysis was developed in the 1980s by the psychoanalysts Dr Hidas and Dr Raffai, who always emphasised that their Bonding Analysis was not

only a method for preventing the transmission of trauma, but also a tool for creating a strong bond in the womb. I will later explain what kind of trauma may be transmitted from mother to baby, as well as other factors hampering a healthy psychological development of the prenatal baby, such as the influence of maternal stress, birth trauma, twin loss, implications of the reproductive medicine, epigenetic impacts.

Professor Thomas Verny, the worldwide most renowned prenatal psychologist, calls the unborn baby a thinking, feeling, learning and interacting human being right from the very beginning, i.e. from conception on! In addition, molecular biologists made the groundbreaking discovery that every single experience we have gained during our lifetime is stored in every single cell of our body from the moment of conception as Verny so brilliantly explains in his latest book "The Embodied Mind, Understanding the Secrets of Cellular Memory, Consciousness and Our Bodies".

Foetal life and womb experiences have been the subject of intense research since the 1970s, along with a variety of ways to verify the truth of the research results. I will further explain this in more detail later.

<u>Now let me first summarize the topics I am going to present:</u>

Chapter 1: I will briefly talk about the **origin and development of BONDING ANALYSIS (BA).**

Chapter 2: Then I will explain why **prenatal** bonding is of the **utmost importance.**

Chapter 3: After that I will describe the **BA/BOPS**. **application processes.**

Chapter 4: Followed by an explanation of how to deal with the **pregnant woman's biography** which we call anamnesis allowing us to **identify her bonding condition and bonding quality.**

Chapter 5: Then I will describe how the so-called **„inner dialogue**“ **(second pillar of BA/BOPS)** between mother and baby works **(communication channels).**

Chapter 6: And I will provide some **statistical data** that illustrate the **advantages of BA/BOPS for mother and baby.**

Chapter 7: I will go on by briefly summarising **Bowlby's attachment concept** and how it can be **applied to BA/BOPS.**

Chapter 8: The next topic will then be **bonding problems** pregnant women might have, their origins & ways of resolving them. In that context I will present my **„Self-Care“** concept to you.

Chapter 9: Then we will see to what extent the **BA/BOPS** method serves as a tool to create salutogenesis, to build up **resilience** and to work as an instrument of **prevention.**

Chapter 10: We need to look at the effects of **maternal stress** on the baby and in which way **BA/BOPS** can be helpful

Chapter 11: This will be followed by giving examples how the baby may experience birth

Chapter 12: Another hot topic is **twin loss in utero**

Chapter 13: Not to forget the effects of **ART technology** in the context of the reproductive medicine.

Chapter 14: Then let me get to the **3rd pillar of BA/BOPS** : the very special **birth preparation**

Chapter 15: In a final chapter I will address a new scientific field that is in the process of revolutionizing almost all scientific disciplines and will do so even more in the future: **Epigenetics** and its significance for pregnancy.
Practically, every week, every month the newest findings in the field of epigenetics are being published including of course all those that are related to prenatal psychology. This topic alone could fill many hours. I have tried to summarise just some important points.

In general, I will summarize some topics, others I will present more extensively.

Now let me get to the first topic:

Chapter 1: Origin and development of BONDING ANALYSIS

The origins of BA go back to Dr Hidas and Dr Raffai's therapeutic work with psychotic adolescents in Hungary in the 1980s. They discovered that their mental disorders must have developed throughout the period they had spent in their mothers' wombs. And I quote Raffai : "What they completely lacked was the conscious sensation of their own physical boundaries, which made it impossible for them to perceive themselves as autonomous, independent beings and to develop a self of their own."

Raffai found unequivocal evidence that the lack of self-awareness in these young psychotic patients was tightly linked to their mothers' bonding inability.

Like others before or with him, for example Lloyd DeMause, Ludwig Janus, Thomas Verny, Otto Rank, David Chamberlain, Michel Odent, to name but a few, Raffai completely understood that the emotional and mental state of pregnant women all through the pregnancy and especially their bonding capacity and quality have an enormous impact on the unborn baby and its physical and psychological health.

For Raffai, the emotional and mental state of the pregnant woman during pregnancy, with a particular focus on her bonding capacity and quality and their impact on the unborn baby, is of paramount importance. Therefore, Raffai had been looking for a

preventive method to first analyse the woman's bonding quality and capacity in order to then improve and strengthen them, i.e. to look for the origins of existing bonding problems, so that the pregnant woman can develop a healthy, stable, protective and supportive bonding relationship with her unborn baby in the course of the 9-month long life in the womb.

Together with Hidas, Raffai accompanied pregnant women in Hungary with the BA from the mid-1980s on and after contacting Dr. Ludwig Janus, the German counterpart of Thomas Verny, both taught BA in training courses in Germany from 2004 on. Together they trained bonding analysts in Germany, Austria, Switzerland and Belgium until Raffai's death in 2015.

The participants in the BA training courses come from a wide variety of professional backgrounds: gynaecologists, general practitioners, body therapists, family therapists, doulas, psychologists, psychotherapists, alternative practitioners and of course, in the forefront, midwives, who are closest to the pregnant women - along with their families.

Over the years, Raffai has constantly incorporated the results of scientific findings and prenatal psychology into his method.

In this context, one of the most significant discoveries is the so-called cell memory by molecular biologist Bruce Lipton, which prenatal psychologists call pre-linguistic consciousness. All the experiences the baby has in the womb are stored in all its cells, first and foremost, of course, in the brain.

The mother transfers her world of experiences to her baby via chemical and biological processes. All negative and positive feelings a pregnant woman can have are transferred to the baby, i.e. stress, fears, sadness, depression, but also and this is important, feelings of joy, harmony and strength.

The Bonding Analysis offers a new approach to pregnancy and birth. According to Raffai, the **major goals of BA** are the following:

1. Promoting a deep prenatal mother-baby bond
2. Strengthening pregnant women on many levels
3. Supporting the maternal maturation process.
4. Satisfying the unborn Baby's primary need to be accepted and loved, to be given security and protection and above all to be securely attached .

Raffai coined the expression: "The pregnant woman will change from still being her mother's child to becoming her child's mother).

Interestingly, the English language has 2 words for the „attachment bond“: the term bonding refers to the mother's relationship with her baby and the term „attachment“ to the baby's relationship with its mother. Both relationships mark the baby's physical and psychological health and overall development.

A mother's loving and caring bonding capacity and quality essentially forms the baby's attachment quality and enhances its attachment capacity.

A baby that has experienced a secure attachment before birth is more capable of bonding with other people because it can build on its prenatal experiences. The knowledge about the importance of prenatal life and experiences should be spread around the world in order to understand the deeper sense of what the baby is living through in utero. Above all, positive bonding experiences create the basis for stable, psychological and physical health in adulthood.

CHAPTER 2: Significance of PRENATAL Bonding/Attachment

Why are **PRENATAL** bonding and attachment of such an extraordinary importance especially for the emotional development of the baby and even more so for the development of its brain?

One of the leading German neurobiologists and brain researchers, Prof. Dr. Gerald Hüther, explains the importance of prenatal experiences as follows: "During its first nine months, a child presumably learns far more than in the course of its entire later life, and what it has already learned before birth in terms of **bonding experiences** is obviously quite decisive for its later life."

If a baby experiences attachment security **before birth,** it is already able to develop self-confidence very early on which is followed by the perception of self-esteem. Through the emotional and mental interactions with the mother, through the images and feelings she sends to her baby - unconsciously - but consciously in the context of **BA/BOPS** - the baby experiences that it is being perceived as an independent human being.

The unborn baby is aware of everything that preoccupies, distresses, torments its mother, i.e. strong emotions such as love and hate, finer emotional conditions such as doubt, weakness and indecision. Everything the baby feels and perceives shapes its attitude towards life, towards itself and towards its parents. Whether it will later be predominantly happy, sad, belligerent, cowardly, self-confident or tormented by fear largely depends on what messages it received about itself in the womb.

According to the findings of modern developmental psychology, but especially prenatal psychology, a child's personality development is shaped from conception on and throughout the 9 months in the womb. (fetal imprinting or programming are relatively new technical terms)

The mother constantly shapes the baby's psychic and emotional development and the best tool to achieve that is to build up a deep, intensive, positive, emotional bond by providing the unborn baby with a strong feeling of security and protection, by conveying reliability and by creating trust.

For children, whether before or after birth, attachment is an absolute primary need and if this need is met prenatally, a more effective basis is created for a mentally and physically stable health in adulthood, enabling adults to have stable, harmonious and peaceful relationships.

What are the positive effects of prenatal bonding?

The babies whose mothers have been accompanied with **BA/BOPS** (we call them **„BA babies“)** actually develop differently. They are better able to self-regulate their affects and emotions. They react more appropriately to stressful situations and keep their negative feelings under control. Developing the ability to self-regulate affects needs repetitive secure, sustainable bonding and attachment experiences.

According to Raffai, the **BA** babies acquire what he called **„psycho-social competence“,** which means these babies are more empathetic towards their fellow beings! They develop self-confidence very early so that they feel quite comfortable to explore the world around them. If, for example, siblings go to the same kindergarden or school and one child's mother had been accompanied by BA during her pregnancy and the brother or sister has not, kindergarden or nursery school teachers confirm that they state striking differences in the sibling's learning and social behaviour!

Prof.Verny describes the effect of prenatal bonding so brilliantly: **"A secure person has a deep-rooted self-confidence. They know that everything will work out. They know this with the wonderful certainty of someone who has been told since the first spark of consciousness, and who has been told again and again, that they are wanted and loved. From this feeling, specific character traits naturally follow, such as optimism, confidence, openness to others and extroversion" (Extract from the book: "The secret life of the child before birth", page 29/30).**

So, how can prenatal bonding be achieved within the context of BA/BOPS?

First and foremost, **BA/BOPS** is about finding out what the pregnant woman's bonding capacity and quality are like so that the bonding analyst can develop a strategy about how to strengthen and improve both. There is a variety of factors that may be at the root of bonding problems keeping the pregnant woman from making good bonding possible.

On the basis of my work with pregnant women I can ascertain that almost all bonding problems, bonding disorders or just slight bonding peculiarities originate from the way these women were treated by their parents or other caregivers prenatally, during early childhood and adolescence. They show symptoms of emotional deficits, more or less severe. Mind you, this is not about parents bashing, not at all. All parents did as best as they could, only passing on what they had received. I will get back to that topic later.

So, the bonding analyst's main task is to detect the existing deficits, search for their causes and suggest possible solutions. The way can then be paved for the pregnant woman to establish a solid mental and emotional contact with her baby.

The main tool used in **BA/BOPS** is what we call the pregnant woman's anamnesis or her biography which is the first **BA/BOPS** pillar. I will explain the exact content and procedures in chapter 4.

If the pregnant woman's ability to bond is impaired, it will be difficult for her to establish contact with her baby. An impersonal, negligent attitude towards the baby has considerable and lifelong consequences for the baby! Rejection that has led to abortion attempts, which the embryo had survived, are among the most traumatic experiences that can be inflicted on an unborn baby. As adults, these babies suffer throughout their lives from a total lack of attachment, mortal fears of abandonment, feelings of panic, agony of annihilation.

Prenatal bonding and brain research

The development of brain and psyche are closely connected. Genetic conditions and environmental experiences, i.e. epigenetic imprinting, form the prerequisites. As early as 3 1/2 weeks after conception, the first basic elements of the brain stem develop, the basis for all survival functions. The spinal cord, the brain stem and parts of the limbic system, the centre for the perception of feelings, function very early. The cortex, where consciousness, reason and the ability to speak are situated, develops more slowly and only much later during pregnancy.

A human brain consists of about 100 billion nerve cells. From the 8th week of pregnancy, about 250,000 nerve cells develop per minute until there are about 200 billion nerve cells. This number is devided in half again until birth, so that a baby is born with about 100 billion nerve cells. These cells are connected to each other by synapses which in turn constitute the information connections in the neuronal network and the so-called neurotransmitters are messenger substances responsible for the flow of information.

The German brain researcher Prof. Dr. Gerhard Roth calls these neurotransmitters the "language of the soul/psyche", they transfer information in the synapses within milliseconds. Dr. Nicole Strüber, another German brain researcher, calls them "neurochemical communicators" because they influence the way we perceive things.

The limbic system

Neurobiologists, such as Roth and Strüber, describe the limbic system as the site of all conscious and unconscious emotions. This system is a very complex network divided into three levels, the lower, middle and upper levels. While the upper limbic level involves conscious feelings and actions, upbringing and socialisation, the middle limbic level is shaped by early childhood, bonding experiences, and conditioned learning.

Prenatally, the lower limbic level is the most interesting. This level, together with the pituitary gland, controls life-sustaining, vegetative bodily functions. Innate behaviours such as flight and aggression, regulation of stress and affective emotional states such as joy, anger and sadness are anchored here. These functions are of genetic origin, to which are added all prenatal experiences gained during pregnancy.

The emotional experiences that a mother lives through during pregnancy trigger the release of neuromodulators, neuropeptides and neurohormones. They reach the foetal brain via the bloodstream and influence brain development. The experience of our own birth, which lies deep within all of us, is also rooted there.

The diverse stimuli that pass from mother to child provide a constant stream of learning experiences that the child deals with by linking the excitation patterns generated in the brain with patterns that have already been created and anchor them as new experiences. The nerve cells in the brain divide, multiply, learn from each other, and form ever more complex networks with more and more connections. Structural and functional development go hand in hand.

Bonding and attachment experiences made within the intra-uterine living environment are deeply imprinted in every cell of our body and not only in the brain as was assumed for a long time. Bonding experiences, good or bad, determine how we perceive ourselves and others. Positive experiences are a vital prerequisite for the child to live a healthy life. The parents' bonding capacity for their part depends of course on the experiences they have had in their own prenatal life and development and during their childhood.

Prof. Hüther states that the child's brain has the capacity to learn all through pregnancy. Thomas Verny speaks of the womb as the first classroom! For Prof. Hüther, the most important task of the brain is to create and form relationships of which bonding and attachment are the most prominent elements especially with regard to the unborn child.

To summarize: Early bonding that is to say **prenatal** bonding creates a more solid and secure basis for the mental and emotional health of the unborn baby and the development of its brain!

At the end of my presentation I will describe to you a very successful bonding analysis which clearly illustrates what **BA /BOPS** can achieve: A pregnancy that started with an attitude of total rejection was successfully turned during the baby sessions into a secured loving relationship at the very end.

Chapter 3: BA/BOPS application procedures

So, how are **BA/BOPS** structured?

The best time to start the accompaniment with **BA/BOPS** is between the 12th and 17th week of pregnancy. However, it can also start a little later.

In an initial interview, the pregnant woman is asked why she wants to be accompanied with **BA/BOPS**, what her expectations are and whether she has already sought information about that method before contacting the Bonding Analyst. She is given a detailed explanation of what the **BA/BOPS** entail and how it works.

Secondly, the pregnant woman is asked to fill in a questionnaire that may sometimes take up a couple of hours depending on the "luggage" the pregnant woman brings with her. The answers to the questions are the basis for the analysis and the assessment of her bonding capacity and quality. Raffai called his questionnaire „anamnesis“ which is in fact a shortened version of her biography.

The Bonding Analyst and the pregnant woman usually meet once a week, if possible same day, same time, the reason being – as Raffai explained it - that the baby gets used to this regularity which becomes a fixed ritual. That way, the mother conveys to her baby the feeling that she is reliable. The consultation sessions are called „baby session“ . They may take between 45 and 60 minutes.

The Bonding Analyst works with the anamnesis by extracting all vital information pertaining to the nature of her relationship with her partner, her parents, her parents-in-law and her maternal and paternal grand-parents.

All baby sessions are structured in the following way: During the first 20 minutes, the Analyst singles out certain answers to the questions contained in the questionnaire that might need further clarification.

Then the Bonding Analyst leads the pregnant woman into deep relaxation giving her specific instructions about how to get into contact with her baby. That might also take about 15 to 20 minutes and during the last 20 minutes the pregnant woman describes to the Analyst what she has experienced, seen on her inner screen and felt during the state of deep relaxation and whether and how contact has been established between her and her baby. All further sessions follow the same pattern.

In deep relaxation, the pregnant woman focuses her attention on her body. She concentrates on sensory impressions, feelings, thoughts and fantasies that may appear on her inner screen as symbolic images.

The pregnant woman tunes in to the baby and the inner images via what Raffai called an **"INNER DIALOGUE"** (second pillar of **BA/BOPS**) between mother and baby. This interaction and connection works both ways. Raffai named this kind of communication "the umbilical cord of both souls" which by the way is the title of his book that was translated from Hungarian to German and English (English title: „Prenatal Bonding

Analysis – The Invisible Umbilical Cord“ and the original Hungarian book title: „Lel köldökzsindr“).

Once the connection with the baby is established, - which by the way might take a couple of baby sessions (around 6 to 8) the pregnant woman begins to send inner images to her baby, also feelings and real talks. She can receive the same from the baby. It is quite common that in the beginning it is difficult for the pregnant woman to distinguish her own thoughts and images from those coming from her baby That is quite normal. However, once the contact is established, it becomes more and more easy for the pregnant woman to differentiate between her own thoughts, feelings and images and those coming from her baby.

The connection between those two gets more and more intimate and deeper, so that already at a very early stage in the pregnancy the mother learns how her baby feels in the womb, how it is developing and what its needs are. Knowledge about the baby increases. Clarity and transparency in their relationship develop further.

In the course of the sessions, the baby can also be prepared, for example, for upcoming medical interventions such as ultrasound examinations or the usual check up with the gynaecologist.

About 4 weeks before the calculated date of birth, the so-called **„birth preparation sessions** begin, altogether up to 6 or 8 sessions which must be completed 10 days before the calculated date of birth.

During these birth preparation sessions, mother and baby prepare together the upcoming physical separation and the birth process which they will manage together. Mother and baby say goodbye to each other in order to be reunited after birth.

To initiate and accompany this process of separation, of letting go, Raffai has worked out specific instructions that the mother imparts to her baby.

In the last session, the pregnant woman is discharged with a special homework to do. She is told to practise the birth rehearsal every day together with her baby right up to the moment when the real birth procedure starts.

About 4-6 weeks after the birth, mother and Analyst meet again to talk about the birth and how the baby has developed. After about 6 months another meeting is scheduled and again all information about the baby's development are written down in a questionnaire which is used for gaining statistical data.

The **BA/BOPS** accompaniment is successful when, firstly, the pregnant woman has gone through a maturity process and, as Raffai puts it, "has changed from being her mother's child into being her child's mother" meaning that all bonding problems, difficulties, disorders, and blockages have been solved.
And secondly, when the birth process has taken place, without complications.

Chapter 4: The questionnaire – the pregnant woman's biography

First, all relevant formal data are recorded, e.g. how many weeks pregnant is the woman? When is the birth due and, if known, when was the date of conception?

Then the pregnant woman explains why she wants to be accompanied with **BA/BOPS?**. What are her expectations? Her answers can already be very revealing, is she really interested in prenatal bonding or is she rather focused on just having a smooth birth?

Next question concerns her baby, is it planned, accidental, unwanted? What were the first feelings when the pregnant woman found out that she was expecting a child? Does she already feel any kind of contact with her baby, e.g. energetically, intuitively, physically?

Then she is asked to describe her partner and their relationship. How long have they been together? Do they live together? Have they had any crises yet? If yes, how did they deal with them? What is the father's attitude towards the baby. What was his reaction when he was told that he will become a father?

Further questions concern possible problems with the current pregnancy. Does the pregnant woman have any negative or rejecting thoughts about her baby, at the beginning or during the pregnancy ?

A very important question concerns possible losses of emotionally significant people in her life or especially since the beginning of her pregnancy or short before she got pregnant? (through death, or separation).

She is then asked whether she has had any miscarriages or abortions in the past. If either is answered in the affirmative, she is then asked whether any kind of griefing has been done after the loss of a child in utero or whether an abortion still occupies her thoughts or dreams?

Then she should very spontaneously describe her mother and father in a few sentences and depict the nature of their relationship in her childhood and now as a grown-up person. Did they have any severe problems, conflicts, misunderstandings .
Does she know whether she was planned, accidental or unwanted herself and what was her own perception?

This is followed by the most vital question: What was her own pregnancy and birth like? Were there any particularities, problems, was it a pregnancy at risk? Did her mother suffer a loss during her pregnancy? How did the birth go? Was it premature, did it take place on the expected date or was it post mature? Was the birth induced, was there a long expulsion phase?

What obstetric interventions were used, if any? Were analgesics administered, was a PDA used? Was a Caesarean section desired from the outset and carried out? Was

an emergency section necessary? Was there any separation from the mother after birth? Had breastfeeding worked right away?

The same questions are being asked with regard to the course of her partner's pregnancy and birth.

The next questions pertain to the relationship with her parents-in-law as well as her partner's relationship with his parents.

More general questions follow, such as whether the pregnant woman is generally satisfied with her life, her partnership/marriage and her job situation?

Finally, questions are asked about her everyday life and living conditions. She is asked to describe a typical day in great detail from the time she gets up to the time she goes to bed, and how she spends the weekends.

The Bonding Analyst then thoroughly works on the answers given, searching for bonding problems and bonding related issues. The results of this analysis are then being discussed during the baby sessions.

Chapter 5: Communication channels and the role of the „INNER DIALOGUE“

In his work, Raffai talked about three different communication channels between mother and baby through which information flow back and forth.

First, the physiological/biological level: for example if the pregnant woman is upset about something, she produces stress hormones, which reach the baby through the placenta. If her heartbeat accelerates, the baby's heartbeat doubles only a fraction of a second later.

Secondly, the physical level: for example, when the pregnant woman caresses her belly that has a calming effect on the baby. If the baby is stressed, it may kick violently, etc.

The 3rd level is the empathic/intuitive/emotional-mental connection and it is the emotional-mental one where the contact between mother and baby takes place. This is exactly the level on which the **BA** is effective.

On this 3rd level, in turn, there are several communication paths through which the pregnant woman and her baby can enter into mental and emotional contact. Rafael describes these inner communication paths as "the umbilical cord of the two souls“ (soul in the sense of psyche). The communication between mother and baby takes place via the exchange of images and feelings, up to and including verbal dialogues.

How does that inner dialogue function?

Countless research on the behaviour of **brain waves** in the state of deep relaxation have been carried out in the last decades. One result has shown that the so-called **Alpha waves** serve as a gateway to deep relaxation supporting the visualisation of inner images. If we go deeper into relaxation, our brain switches to **Theta waves**. Our unconscious mental parts are located in this area. It is highly probable that the baby's Theta waves are tuned in the same way and that mother and baby meet on this level.

Raffai puts it this way: "In the common bonding space, they share their psychic contents with each other in a very natural way." This inner dialogue is also possible because mother and baby share the same body.

Another important means of communication is the release of maternal hormones reaching the baby via the placenta. The baby is constantly connected to the mother's emotional world. Her emotions can cause hormonal changes in the blood, change the oxygen supply or accelerate the heart rate, the latter two are then also noticeable in the baby and they can be measured.

There is a further channel and that is is actually the heart. A few days after conception, a tiny clump of pulsating cells forms in the embryo, the beginnings of the heart. It needs the mother's heartbeat as a stimulus for developing neural connections in the fetal brain, and with each heartbeat numerous nerve signals are sent to the brain. As a pulsating organ system, the heart is the bioenergetic and emotional centre of the bonding process. It obtains information from hormones, heart rate and blood pressure, transforms these into nerve impulses and transmits them to the brain via the so-called vagus nerve and the nerve tracts of the spinal cord. Traumatising events such as conception under violence, threats of abortion or failed abortions and loss of twins, are stored in the brainstem.

Moreover, the development of the individual sensory organs leads to the formation of further communication channels through which a multitude of impressions from the maternal organism are transferred onto the baby. Ultrasound examinations have shown for example that the prenatal baby even reacts physically to its mother's stressful **thoughts** alone.

I would like to give you a most striking example:

An eight-year-old boy had been suffering from vomiting all his life, no cause whatsoever could be found. He was therefore referred to a psychotherapist. Drawing pictures he repeatedly painted himself asleep at the bottom of a deep well. Through conversations with his mother and working with his pictures, it turned out that his mother had tried to abort him with a poisonous liquid when she was five months pregnant. But eventually she decided to have the child and even succeeded in establishing a loving relationship with him. **BUT** the traumatic experience was memorised in every cell of the boy's body and not only in his brain. After he had relived that experience in therapy, the vomiting stopped.

I resume: the inner dialogue is one of the 3 pillars of **BA/BOPS** , the other two being the analysis of the pregnant woman's bonding capacity and quality and the birth preparation process.

There is another communication channel that I would like to mention very briefly: the Austrian gynaecologist Prof. Dr Johannes Huber talks about the "entanglement of quanta" in his book "The Holistic Human Being" (page 14). He explains: "Two quanta, e.g. photons (here we are thinking of the pregnant woman and her baby) can assume a common state according to the laws of quantum physics. This so-called quantum entanglement then makes it possible for mother and baby to share the same "inner screen" on which they exchange their thoughts, feelings and dialogues.

HAPTER 6: Advantages of BA/BOPS for mother and baby – statistical data

Benefits for the mother:

1. The **BA/BOPS** method helps the pregnant woman to turn pregnancy, birth and breastfeeding a positive experience.
2. This method strengthens the emotional bond between mother and child
3. It has a positive influence on breastfeeding
4. Post-partum depression (baby blues) almost never occurs (less than 1 %, compared to an average of 19 %).
5. The caesarean section rate is remarkably low
6. The premature birth rate is only 0.2 % compared to the usual 9.2 % (in the USA even 12 %).
7. The labour process is on average much easier and quicker, less painful and requires less epidural or obstetric drugs
8. BA/BOBS contributes to the psychological stabilisation of pregnant women, reduces their anxiety and shows them how to cope better with stress

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Benefits for the baby:

1. Babies whose mothers have been accompanied by the **BA/BOPS** method have fewer birth-related head deformities, and if they do occur, only in an attenuated form that disappears very easily and quickly.
2. These babies generally experience neither physical nor emotional/psychological birth trauma.
3. Abdominal colics and crying fits occur much less frequently.
4. the same applies to sleeping disorders. Babies sleep through the night more quickly and appear much more balanced and in harmony with themselves.
5. Psychomotor development progresses faster.
6. The babies show stronger social skills right from the start. They are empathetic and open to other people (children or adults).
7. Their self-regulation functions better.
8. Due to the bonding that the prenatal baby has already experienced in the womb, it has developed strong self-confidence. It explores its environment with curiosity and approaches other people with ease.

For whom is the BA/BOBS method suitable and recommended?

1. For every pregnant woman, of course, regardless of whether she has bonding problems or other difficulties or worries. The contact with the baby is the most important element.
2. For any woman who has experienced a dramatic birth or has suffered from postnatal depression after giving birth.
3. For women who have suffered a miscarriage and have perhaps not yet fully come to terms with it.
4. For women who find it difficult to conceive, for whatever reason.
5. Special support is given to pregnant women in connection with reproductive medicine (ART - technology).
6. For first-time mothers who are very afraid of giving birth.
7. For women who found out at the beginning of their pregnancy that they had twins or even multiples in the womb, but one or more of them died or slowly dissolved in the first trimester or later.
8. In preparation for a planned caesarean section.
9. For women who have experienced violence or abuse.

I would like to show you some statistical data:

A colleague, Anne Görtz-Schroth, has carried out a quantitative and qualitative study on the effect of bonding analysis. From 2017 to 2020, she studied 295 Bonding Analysis carried out by 45 certified colleagues. The first study was published in 2019 (source of this study: "Polyphone Strömungen, Darstellung neuer Erfahrungen aus der Bindungsanalyse", page 7-17, Mattes Verlag). The study investigated the effects of BA support on the pregnant women's bonding capacity, how the birth went and whether birth trauma could be avoided. A minimum number of 12 sessions was required for being included in the study, as well as a requested average of 19 sessions and the completion of 2 evaluation forms (the first was to be completed one month after the birth and the second after 6 months). Questions were asked about the start and number of sessions, the week of birth, the place of birth, the duration and course of the birth, the use of medication and obstetric interventions, as well as the baby's behaviour after the birth (sleeping, crying, breastfeeding), and whether there had been any signs of postnatal depression.

Weeks of birth and number of women:
34th week - 1
35th week - 0
36th week - 2
37th week - 2
38th - 40th week - 290 (out of 295)

Mode of birth:
Vaginal birth - 82 %
Spontaneous labour - 77 %
Without the use of medication and obstetric interventions - 32 %

Caesarean section - 18 % (the German Midwives' Association stated a caesarean section rate of 29.6 % for 2019)

According to the WHO and a study by the German Medical Journal, a caesarean section rate of max. 15% is considered medically necessary.

Place of birth:
Hospital - 88.5 %
Home births - 10 %
Birth centre - 1.5 %

The rate of 11.5 % out-of-hospital births is therefore 7 times higher than the average rate across Germany of 1.6 %. This can be understand in such a way that women are significantly less afraid of giving birth and have greater confidence in their ability to give birth.

Breastfeeding rate:
99% of women breastfed after giving birth. After six months, 94% of babies were still being breastfed. The German Society for Nutrition gives a rate of 74.5 % after birth for the years 2017 to 2019 and only 60 % after six months.

Post-partum **depression:**
This second study stated that 98.7% of women showed no signs of PP at all. By comparison, the WHO indicates a 19% rate of post-partum depression worldwide. The baby blues rate was also surprisingly low at only 6% (average rate in Germany: approx. 80%).

To summarise, it can be said that according to the study, pregnancy support with BA/BOPS achieves excellent results in all relevant areas.

Comparison of the results of the first and second study:

	1st study	2nd study
Premature births:	5.5 %	1.7 %
Vaginal births:	88.0 %	82.0 %
Caesarean section:	12.0 %	18.0 %
Out-of-hospital birth:	19.5 %	11.5 %
Breastfeeding rate after birth:	98.5 %	99.0 %
Breastfeeding rate after 6 months:	92.0 %	94.0 %
Post-partum depression	2.0 %	0.7 %
Baby blues	5.0 %	6.0 %
Crying babies	0.0 %	0.3 %

The 45 certified prenatal Bonding Analysts who took part in the 2nd study came from very different professional backgrounds. Among them were midwives, doulas, gynaecologists, psychotherapists, social pedagogues, family therapists, body therapists, etc. and they came from different cultural backgrounds: Germany, Austria, Switzerland, USA, Belgium.

The Bonding Analysis in combination with the BOPS method can be successfully applied by users with different backgrounds The different composition of my course participants supports the promotion of prenatal bonding and ensures that more and more pregnant women and their babies can benefit from **BA/BOPS** !

Anne Görtz draws the following conclusion from her research:

"The Bonding Analysis has made it easier for many families to grow into parenthood, sparing them grief and suffering and giving the whole family a happier and more relaxed babyhood. Babies who are securely bonded in this way are spared avoidable emotional and physical pain and can start life much more relaxed."

Chapter 7: Bowlby's attachment concept and its application within BA/BOPS

John Bowlby, English child psychiatrist and psychoanalyst, developed attachment theory in the 1950s. After World War II, the WHO commissioned Bowlby to research the psychological development of war orphans and their most basic needs.

Bowlby reported in great detail on the effects of a lack of maternal care. And maternal care, of course, begins in pregnancy.

One of Bowlby's key statements is: "The ability to form attachments to others is considered a fundamental feature of an effectively functioning personality and mental health." Attachment experiences are internalised, influencing the quality of relationships with others later in life. This is particularly evident in the intact regulation of emotions in stressful situations.

Complementary to the child's attachment behaviour is parental care, which is another component of human behaviour. A secure attachment is a prerequisite for healthy development. Loving care and satisfaction of basic needs are formative for the development of the child's basic trust. This becomes possible when the child is confident that its parents are available, sensitive and reliable. Thus, secure attachment serves salutogenesis, the creation of health.

Whatever the nature of the various attachment experiences, in the course of the attachment analysis they are named, felt, re-experienced and processed. What is crucial here is that everything can be experienced and processed as an adult, because here and now different resources are available than in the days of childhood. What was life-threatening or seemed so back then can be processed quite differently.

According to Bowlby, there are 4 different attachment behaviour patterns:

1. "secure"
2. "insecure-avoidant".
3. "insecure-ambivalent
4. "insecure-disorganised".

A securely attached child has confidence in the reliability and availability of the attachment figure. As a result, they are more empathic, cooperative and socially competent towards others and develop more balanced affect control and communication behaviour.

In adulthood, this corresponds to a secure-autonomous attachment style. In relation to a pregnant woman, this means that she deals with her pregnancy in a very responsible, caring and self-confident way, knows how to protect her baby and also deals with herself in a loving way.

The insecure-avoidant attached child has internalised the attachment figure as rejecting. It is characterised, for example, by a lack of expression of affect, by rejection and aversion to physical contact. The child cannot develop trust in support, but expects rejection.

With reference to a pregnant woman, this would mean that she has difficulty accepting her baby, that she may act inconsiderately towards her baby, for example, by exercising excessively, continuing to smoke and not handling stressful situations well.

The insecure-ambivalent attached child is strongly fixated on the attachment figure. For this child, the attachment figure is not predictable, i.e. not reliable. Adults are often trapped in relationships. For them, most relationships are negative in affective terms. Their behaviour often has the symptoms of being entrapped in relationships.

Applied again to a pregnant woman, this could mean, for example, that behind her desire for a child lies the unconscious intention of wanting to keep her partner at all costs with a baby.

The insecurely disorganised-bound child has had the experience that the attachment figure does not provide a secure basis for protection and safety. The attachment figure may have experienced abuse, maltreatment, painful separation or loss.

For a pregnant woman, this could mean that she transfers her massive fears to her unborn child, who may suffer from panic attacks and anxiety disorders in adulthood and be unable to defend herself against sexual or violent attacks.

The attachment experiences become mental, that is, inner symbolic representations, which Bowlby called "inner working models". This is exactly what Prof Hüther calls inner images that are created in the baby's brain. Through the internalised attachment experiences, a secure or insecure attachment pattern is formed. These experiences regulate the child's behaviour towards the attachment figure and later structure the adult's behaviour and experience in all emotionally relevant relationships.

A secure attachment is therefore a protective factor, an insecure attachment a risk factor. Clarifying the pregnant woman's attachment state and strengthening it is therefore crucial for the baby's psychological well-being.

CHAPTER 8: Bonding problems, their origin and the „Self-Care“ concept

I would like to explicitly point out once again that, as Raffai himself often stressed, **BA** and **BOPS** are not psychotherapies for treating psychopathological bonding disorders. The main tasks of both methods are to help women to become more independent, more self-confident (self empowerment) and gain autonomy from their parents. Raffai calls it an "initiation of a maturation process". It is amazing to see how many adult women and men are still emotionally negatively attached or emotionally dependant on their parents.

In order to be able to identify possible bonding problems and "analyse" them in a helpful way, to interpret them as being relevant for the prenatal bonding process, the pregnant woman must describe in detail the relationship with her parents.

Bonding problems may not be pathological but they can have serious effects on the unborn child. I would like to give you a vivid example:

Once a pregnant woman told me right at the beginning of our first baby session that she was not at all sure whether her partner, who was the father of her first 2 children and also of the 3rd one in her womb, was really "the man for life". When she described her relationship with her father, it turned out that the father did not like her partner at all and for several reason which are not relevant here.

It became increasingly clear that the pregnant woman had unconsciously adopted her father's negative attitude towards her "partner". She had always been daddy's little princess and daddy still made himself indispensable by continuing to do everything for her. The transfer of her father's negative attitude towards her partner had a rather dramatic effect on the birth of her first two children. Both were born prematurely (at 27 and 28 weeks), had to stay in hospital for many weeks and showed numerous self-regulatory disorders.

In fact, the analysis showed that the pregnant woman totally unconsciously did not allow herself to have viable children from a man her father did not like!

In one baby session, she was asked to set up 2 lists, inserting in one her father's negative remarks about her partner and in the 2nd all qualities of her partner that she appreciated. The analysis of the two lists made it clear that she consciously appreciated her partner, but had unconsciously adopted her father's negative attitude. In psychology, this is called **"projective identification".**

In the remaining weeks of her pregnancy, she learned to set her father boundaries which was very hard for her in the beginning, and to turn more towards her partner. She could hardly bear to hurt her father by rejecting his constant and continuous readiness to help her. She had remained her father's little daughter for far too long, BA helped her to really become her children's grown-up mother allowing her partner to be the legitimate father of their children. Results: their 3rd child was born in the 41st week of pregnancy without any problems!

How can bonding problems be unveiled, defined and resolved?

In the course of my work, I found out that almost all bonding difficulties pregnant women have, stem from the way they were treated before and after birth. They all have emotional deficits more or less strong, more or less hurtful and deeply marking their psychological state of health. And I repeat again this is not about parents bashing. All parents have given their best, even if that took the form of violence. They did not know any better, they were just giving to their children what they had received from their parents. **It is essential to understand and accept that parents can only parent from their own parenting experiences.** That would change if they became conscious of the fact that a lot of conditioned behavioural patterns were toxic and hurtful for their children. The **toxic educational style** has been transferred from generation to generation. It is high time to break that vicious circle.

Self-Care **is the act of giving yourself what you did not receive as a child.** Self-Care is not only a chance but also a kind of personal responsibility that we owe ourselves. It is a longer process, not an easy one and it takes time, commitment and a whole lot of patience. It allows you to heal. You can look back on your childhood then without feeling anger, grief, sadness, guilt, shame or disappointment knowing that the reasons for your parents' toxic behaviour are not to be found in what you did or did not do in their eyes but they are rooted in their own toxic educational experiences.

Therefore, an important part of my BA/BOPS concept (German title: **B.O.B.S.-Bindungsorientierte-Begleitung-der-Schwangerschaft (Bonding-Oriented-Accompaniment of Pregnancy** and in French A**ccompagnement-Prenatal-Psycho-affectif)** is to encourage the pregnant woman to name and define her deficits and then to show her how she can "take good care of herself“ by following a well defined "**self-care"** process.

To break the vicious circle of constantly creating and transmitting what is technically called „toxic education“ to the next generation, prospective parents should address the issue of their own bonding experiences , allowing themselves to have a critical and open look at their deficits, accept them and do everything for not repeating them on their children.

To summarise:

Bonding problems arise on the basis of stress- and hurtful bonding experiences first gained in utero then in childhood and adolescence with emotional deficits as main characteristics of parents-children relationships.

What is the „Self-Care concept“ like? - How do we get rid of the impacts of toxic education?

I have set up a list that the pregnant woman can use to find out to what extent the phrases listed apply to what she has experienced. In the list below, I give some examples of questions that the pregnant woman can tick off to find out why certain

expressions or behaviours on the part of the parents have caused her to feel an emotional deficit.

Some examples of the kind of deficits one may have experienced:

- Did your parents want a boy/girl instead of a girl/boy? Were you rejected because you did not have the desired gender?
- Did you have a mother who suffered from depression and somehow made you feel either responsible for her state of health or pushed you into the role of „mother's little helper“?
- Did you have a mother or father who was negligent, inattentive to your wishes, feelings, thoughts?
- Were you actually perceived, seen and heard as the unique person that you are?
- Were you constantly being criticised or ordered about? Nothing you did was really appreciated?
- Were you afraid to have your own ideas about life, job, friends you wanted to have?
- Were you adopted?
- Were you praised every time you did something well?
- Were you allowed to take decisions on your own?
- Were you ridiculed, especially in front of other people?
- Were you given any space for your own development ?
- Were you punished if you did something wrong in the eyes of your parents? If yes, how often, what for and how severely?
- Did you have the feeling that you were really wanted?
- What was the care like your parents gave you?
- Were they available whenever you needed them?
- Did you have the impression that your parents were reliable?
- Were you afraid of your parents? If yes, in which situations
- Did you feel secure in the presence of your parents?
- If you have siblings, how was your relationship with each other?
- Were there any preferences or disadvantages with regard to the siblings?
- Did your parents accept your friends without annoying criticism
- Did your parents respect your private space?
- Did you ever have the feeling of being loved unconditionally?

The list is endless.....and can be completed!

In my online courses I will explain the ways we treat the answers to all these questions and discuss the possibilities the self-care concept offers to deal with the impacts of toxic education.

Chapter 9: Resilience

Primal trust is another essential prerequisite for effective bonding. Creating primal trust in the prenatal period promotes the development of resilience.

So, what is resilience?

The term resilience refers to the ability to react appropriately to stressful events, i.e. to get back on one's feet quickly after serious life crises or traumatic experiences. Resilience stands for an intact immune system of the psyche acting as a protective shield against mental and emotional troubles.

The research on resilience began on the Hawaiian island of Kauai. Pioneering work in the field of resilience research was done by the American developmental psychologist Emmy Werner with her Kauai Study. She investigated how difficult starting conditions in childhood affect later life. Emmy Werner and her team followed almost 700 children born in 1955 on the Hawaiian island of Kauai for over 40 years. Almost 1/3 of these children grew up under extremely adverse circumstances: poverty, parental illness, parents' drug abuse, neglect, family violence, sexual abuse, parents' low educational level, etc. This kind of adversity in childhood has dramatic short and long term consequences for the children who run massive risk for developing stress related health disorders.

2/3 of these children showed learning or behavioural disorders, became delinquent or psychiatrically ill. At the same time, 1/3 of these children developed in an astonishingly positive way. They were successful at school, integrated into social life and did not show any behavioural problems at any time during the study.

The basic findings from this and other studies have shown that unfavourable starting conditions do not necessarily have to lead to misery and failure. Resilient children and adults have certain characteristics and strategies that enable them not to break down in adverse circumstances. The strong children of Kauai had something that the others did not: there was **at least one loving** caregiver who gave those children every thing that a child needs to become a strong and healthy adult: unconditional love, empathy, protection, sense of security, encouragement, respect, to name but a few.

In which way can BA/BOPS contribute to strengthening the pregnant woman's resilience

The mother's mental and emotional contact with her unborn baby creates primal trust, which is the basis of every mother-baby bond. If the pregnant woman has not experienced primal trust herself which led to the kind of deficits I mentioned in chapter 8, the concept of Self-Parenting allows her to find that missing trust in herself. This is one of the reasons why the application of **BA/BOPS** stretches over several months, ideally at least 6 months.

By strengthening the pregnant woman's resilience the unborn baby gets the message that its mother has become a stronger person transferring her positive experience to her child who in turn will be able to already develop resilience in its mother's womb.

Raffai wanted his **Bonding Analysis** to be a means of prevention, he often stressed the fact that he did not consider it to be an exclusively psychotherapeutic tool for treating trauma. That is one reason why his **Bonding Analysis** can be practised by other professionals than psychotherapists. Raffai endeavoured to create a method to prevent trauma. This is achieved when all bonding problems the pregnant woman manifests are being solved during pregnancy.

The **BA/BOPS** method is clearly an excellent tool for prevention, the creation of health (salutogenesis) and the strengthening of resilience!

Chapter 10: Effects of maternal stress on the unborn baby

Biologically speaking is stress a condition based on a deviation from homeostasis that cannot be regulated by ordinary measures. Homeostasis is the balance of physiological body functions. Self-regulation of body functions work when the body finds consistent environmental conditions. In the case of massive and suddenly occurring events or persisting adverse conditions of life, the organism may no longer succeed in self-regulating. Stimuli with which self-regulation no longer functions are called stressors.

One of **BA/BOPS** aims is to help pregnant women to better cope with their existing stress situations so that the baby can profit from that. An unborn baby that is exposed to maternal stress for weeks and months cannot simply leave the womb to escape the flood of stress hormones.

Numerous studies have shown that elevated stress hormone levels in pregnant women have lasting and even long lasting effects on the baby. Experiences of stressful situations, perhaps even life-threatening ones, are imprinted on deeper levels of the baby's consciousness. Severe anxiety or panic attacks can therefore often be traced back to traumatic events before birth.

Brain, reproductive organs and heart enter an important stage of development in the third month of pregnancy, where relevant hormones also begin to take effect. An excess of stress hormones during pregnancy especially if their flow persists for a longer time has many harmful effects on the developing baby.

In his article „The Impact of Maternal Factors on Prenatal Development“ published in the book „Prenatal Psychology, 100 Years, page 35 to 83, Prof. Verny expertly describes these affects: „When a person feels stressed the so-called Fight or Flight Response is initiated and adrenaline and nor adrenaline are injected into the blood system. Its activation will increase the heart rate, blood pressure and blood sugar production. Blood is then diverted from the internal organs - to which the uterus belongs – to the large muscles in the arms and legs which means that the normal

blood supply is being reduced. Thus the baby in utero receives less blood and consequently less oxygen and nutrients. If this state goes on for a longer time, the consequences can be quite substantial.

The impact of maternal stress of the unborn baby's brain can even be more devastating. Extensive concentrations of the stress hormone cortisol provoke the formation of the wrong circuits in the brain and destroys neurons, synapses and dendrites which in turn affects the amygdala, the hippocampus and the hypothalamic system. This results in decreased learning and remembering capacity.

Furthermore, intense scientific research has also proved that pre-conceptional stress, i.e. stress before the child is conceived, has an effect on the subsequent pregnancy, regardless of when and how long the mother's stress lasted beforehand.

In the case of the newborn, for example, various parameters can be used to determine whether it has been under stress. It shows an increased pulse rate, is noticeably restless and appears diffuse and uncoordinated in its movements.

The most prevalent stressors

In a large-scale study, scientists from a wide range of disciplines have compiled the following stress categories:

1. Change in life circumstances, which include change of job, divorce, moving house, etc.

2. Everyday worries, such as money problems, burn-out symptoms or sick family members, if they represent a permanent burden, poverty, cramped living conditions, stressful partner relationships, violence in the family, unfavourable working conditions, environmental stress.

3. Permanent stress caused by unresolved experiences such as childhood trauma, sexual violence, loss of a loved one, previous miscarriages or stillbirths, abortions, flight, war experiences.

4. Chronic stress caused by permanent excessive demands of everyday life.

5. Stress that manifests itself in physical symptoms, such as back pain, depression or insomnia, and becomes a permanent burden.

6. Pregnancy-related anxiety due to previous miscarriages, tendency to have miscarriages.

7. Maternal depression at the beginning of pregnancy shows a correlation with motor impairment in the baby. Elevated cortisol levels towards the end of pregnancy impair cognitive development.

In his book **"Prenatal Consciousness, The Secret Script That Determines Our Lives", Arthur Janov** describes the effects of maternal stress on the brain of the prenatal baby as follows: "The brain stem plays a key role in prenatal memory. It develops during pregnancy, carries the traces of the most elementary pain experiences and processes life-threatening situations that occurred before birth.

If, for example, the mother had a serious accident during pregnancy, this will undoubtedly affect the brain stem of the foetus, possibly also its heart function, metabolism and nervous system. "In children, for example, who experienced the attack on the World Trade Center in New York on 11 September 2001 in the last trimester of pregnancy, a higher level of cortisol was found in the saliva."

The unborn baby is a rapidly changing system throughout its prenatal period. The younger the baby, the stronger and more permanently effective are external influences. The prenatal space is made available to the child by the mother. Her body, her state of health, her nutrition, her thoughts, her feelings, her emotions, all this is shaped by the conditions of her life which cover her whole environment, her partner and family relationships, workplace and the society at large. The mother passes on these imprints to her unborn child and adds new ones.

American scientists conducted a study with 156 foetuses a few years ago to measure the effect of stress on mothers. Pregnant women had blood samples taken to measure stress hormones that might be present. They were also asked to answer questions about their emotional state. Then the unborn babies were gently stimulated through the vagina and their heart rate was measured.

The pregnant women who had the highest levels of stress hormones, showed greater anxiety and felt the least supported, had significantly and persistently higher heart rates. Women who had much wanted pregnancies, positive self-esteem and adequate social support had the calmest babies whose heart rate went rapidly back to the normal level.

The effects of stress are clearly related to hormonal fluctuations and the structure of the brain. Countless measurements of reactions to stress show an imbalance in the autonomic nervous system, as well as disturbances in the hormone production of the hypothalamus, the pituitary gland (hypophysis) and the adrenal gland, the so-called hypothalamic-pituitary-adrenal axis. A permanently active HPA axis leads to an inhibition of the immune system via cortisol, and increased cortisol levels inhibit numerous genes responsible for the production of immune messengers such as interleukins, and tumour necrosis factor.

How can BA/BOPS help women living in stressful situations?

The **BA/BOPS** method help to reveal the causes and reasons why the pregnant woman feels stressed. When the whole network of her existing relationships is being scrutinized and when she describes concrete stressful situations the Bonding Analyst shows her how to react differently in and to these situations. One very efficient

instrument is the practice of visualisation. For example, the pregnant woman is asked to image a stressful situation she was in and then visualise a different behaviour from the one she had previously shown. That way she learns that there are always several possibilities of reacting in a different way.

Sometimes it can be simply enough to encourage the pregnant woman to learn how to ask for help and support from her partner or other family members.

Furthermore, certain meditation techniques are being used during the baby sessions strengthening the pregnant woman's resilience and her visualisation capacity.

Chapter 11: How does the baby experience birth?

According to all prenatal experts, birth is the first dramatic experience that shapes our personality. How we are born, whether the birth is painful or easy, whether it is associated with violence or ends rather gently, is often determining what kind of person the newborn becomes and how it perceives and evaluates its environment.

This first psychological and physical shock experience is being stored in all of the baby's cells. If it was very traumatising, birth experience is often re-staged in infancy and even in adulthood.

The use of forceps/suction cup etc. means violence. Induction and acceleration of labour without the baby being ready - (its biological clock actually knows better when to initiate the birth process) - administration of anaesthesia and analgesics and worst of all Caesarean section are extremely traumatising for the baby.

Birth specialists like William Emerson, Michel Odent, Jean-Pierre Relier, David Chamberlain have carried out research projects over many decades to prove the traumatising effect of the birth experience and they are unanimous in their conclusions that **all medical interventions** during birth have long-term physical and psychological negative consequences for the development of a baby's personality.

Emerson for example gained his knowledge by having worked on the subject of "The Birth Process and its Effects" since 1975. Using different measuring methods he stated that about 45% of babies suffer very severe birth trauma, about 50% mild to moderate birth trauma and only 5% have no birth trauma at all!

One of the tools he used to get his results is through regression therapy in which birth memories are activated. The authenticity, and validity of such memories, were proven on the basis of intense clinical research and confirmed through medical records or by testimonies of people who were present at the time.

Why do birth trauma occur more and more frequently?

1. Due to the increase in the use of obstetrical interventions such as: administration of anaesthesia and analgesics, induction of labour, acceleration of labour, use of forceps and suction cups.

2. Due to the increase of maternal prenatal stress.

3. Due to prenatal trauma experienced during pregnancy (abortion attempts, rejection of the baby, etc.)

Impacts of the different obstetrical interventions:

1. Anaesthesia: first, massive flooding of the baby's sensory, motor, emotional and cognitive systems due to the anaesthetic going through the placenta, so the baby gets an overdose, because it is always calculated according to the mother's body weight!

Second, the anaesthetic is stored in the baby's fatty tissues, which means that it remains in his body for several days after birth!

2. Induction and acceleration of labour

Relevant research has shown that the baby is able to initiate the birth process itself by means of its own hormone system. The onset and pace of this process follow a natural rhythm, controlled by the baby's biology but violently disrupted by artificial acceleration/induction.

Effects: shock, confusion, fear, sense of invasion and loss of control, which later in adult life can lead to panic attacks, a recurring sense of loss of control and powerlessness.

3. Use of forceps or suction cup

Possible effects are: cold shock from the cold metal of the forceps, loss of control, bonding disorder. feeling of pain. The suction effect of the suction cup is also felt as being quite painful.

However, when forceps and/or suction cup are used as emergency instruments, the baby, aware of being stuck in the birth canal, feels that it can be saved with the help of these instruments. This reduces the shock experience.

4. Caesarean section:

According to Emerson, the most serious intervention is the Caesarean section (except in cases of genuine medical emergency).

First of all, the number of Caesarean sections has steadily increased since 2000 from 12% which equals 16 million babies out of 132 million babies to 21% in 2017 equalling 30 Million babies out of 141 million babies
Currently, almost every second child worldwide is born by Caesarean section.

Why has the rate of caesarean sections gone up every year?

From a medical point of view, only a fraction of Caesarean births are necessary. Caesarean sections are often performed at the mother's request. Reasons are, for example, to plan birth exactly or to be afraid of a vaginal delivery. Some doctors and clinics prefer to schedule birth dates offering Caesarean sections as a standard procedure. In addition, the Caesarian section is supposed to reduce the risk of complications of a natural birth. Both parents and hospitals, which can be held liable for mistakes made during the birth process birth, are very much interested in reducing possible risks.

Extensive clinical research on the immediate symptomatic effects of caesarean section has yielded the following results:

1. Crying babies:

With regard to the so-called crying babies, prenatal psychologists see a direct link between birth trauma and violent crying episodes in the first months of life. The babies use crying and screaming to reduce or simply express the stress experienced during birth.

2. Effect on behaviour:

The experiences of trauma during pregnancy and birth are stored in every cell of the baby's body. Depending on how massive the trauma was is, the smallest event can trigger a strong reaction in adulthood. If, for example, the baby felt fear, panic, anger, powerlessness during birth process, these feelings will emerge again later in certain situations which resemble the original traumatic both situation.

3. Other effects become apparent after birth, such as a lack of sleeping through the night, feeding and digestive disorders, affect regulation disorders, but above all and more significantly bonding problems.

Emerson reaffirms that all birth experiences are stored in all our cells. The baby is born in a state of energetic shock when it is abruptly torn out of the womb by a caesarean section which has a negative impact on the neurological processes in the brain.
Michel Odent, a French gynaecologist and obstetrician who has also done a lot of research work for many decades, describes in his book: "**It Does Matter How We Are Born, Risks of Caesarean Section"**, the result of a Finnish research project which has shown that babies delivered by caesarean section are almost three and a half times more likely to suffer from asthma or to have respiratory problems. The reason is easily explained:

Normally, the baby is involved in triggering the birth process, which happens through a substance secreted into the amniotic fluid signalling that its lungs are ready. Then the hormones secreted by mother and baby during vaginal birth complete the maturation of the lungs. A Caesarian section does not allow such a natural development.

Odent also mentions the bacteriological approach, where he had found links between the Caesarean section and the rising of autoimmune diseases. He states: "There are now many studies that see a connection between allergic diseases, obesity and food intolerances, in addition to the predispositions to asthma and diabetes.
The individual, physiological germ colonisation of the healthy newborn ideally takes place through the germs of its mother, as it comes into contact with all relevant skin, mucous membrane and intestinal germs during vaginal birth. If this does not happen, the sterile newborn runs the risk to be colonised with hospital germs which could permanently weaken it."

Odent sees another risk of Caesarean birth in connexion with the interference with the natural oxytocin system. Oxytocin is known as a bonding hormone. Oxytocin levels rise steadily in both mother and child during pregnancy, but increase massively only with the onset of the expulsion phase. Caesarean sections are usually performed before the natural onset of labour.

At this time, the oxytocin release is not yet high, which means that the natural function of this hormone is disturbed and stress hormones are being released instead.

Unlike a natural spontaneous birth, which can develop calmly and over hours, a Caesarean section happens abruptly and in a very short time. The baby has no way to prepare for this sudden event unless it is mentally and emotionally attuned by the mother to the suddenly changing situation and the break in contact.

Conclusion:

All therapists, researchers or scientists working in the field of prenatal psychology agree:

1. A Caesarean section without mental and emotional preparation of the baby represents a dramatic birth trauma,

2. An abruptly initiated caesarean birth causes a disturbance of the bonding process already established during pregnancy

To summarise:

- One of the most important aims of **BA/BOPS** is to avoid a Caesarean section.
- If it is unavoidable, the baby will be prepared for it thoroughly
- If it had to be performed unplanned in an emergency situation, an experienced baby therapist may take over the follow-up thus healing the trauma.

In which way can BA/BOPS be helpful?

Being a preventive method, **BA/BOPS** offer the possibility to prepare the baby for a Caesarean section if it is planned or absolutely wanted by the mother. The best tool again is the afore mentioned **INNER DIALOGUE,**
As before when the baby needed to be prepared for a medical check-up the mother explains to the baby the reasons why it cannot be born naturally and sends concrete pictures of how the Caesarean section will be carried out.

Via visualisation she describes that process to the baby by sending images showing how the doctor will take it out of the womb and how he will be examined afterwards.

If a pregnant woman has been accompanied for several months with **BA/BOPS** and a secure and solid bond has developed between mother and baby, the latter will not lose confidence in this bond and as it is prepared for it, it will not fall into a state of shock. The bond formed before birth will continue unimpaired after birth.

CHAPTER 12: The trauma of prenatal twin loss

Imagine for a moment that you were not alone in your mother's womb at the beginning of your life. There was a twin sister or a twin brother, or maybe even several, who shared with you not only the first hours of your life, but perhaps even for several or sometimes many weeks after conception and implantation of the fertilised eggs in the womb.

Peter Bourquin, an expert on twin loss, explains in his highly recommended book: "The Twin Left Alone" (unfortunately in German only) that more than 12% of all natural conceptions result in multiple pregnancies. Of these, more than 76 % are lost completely before birth, about 22 are born as singletons and about 2 % are born as twin pairs. In other words, for every living pair of twins, there are at least ten who began their development as twins and lost their sibling during pregnancy.

The greatest tragedy is precisely the fact that the death of a twin often occurs in the first weeks of pregnancy and goes largely unnoticed. This means that apart from the surviving embryo, no one knows about the presence of a twin and its disappearance. If one of the twins dies in the first three months of pregnancy, it is usually absorbed very quickly by the uterus or placenta and consequently leaves no trace. Only the survivor knows this and his feelings are marked by the despair of being left behind alone. He has lost the first and most important person in his life. This has dramatic consequences bringing up massive feelings of loneliness, longing, sadness, anger, guilt, grief, fear and has a massive impact on adult life!

The phenomenon of the missing twin and the effects of the loss of a twin on the survivor have been intensively researched since the 1990s. Those affected often suffer multiple consequences throughout their lives: These include the inexplicable feelings of not being whole, never being good enough, always having to work for two, or, for example, being constantly on the lookout for the perfect life partner, the soul mate that the lost twin surely was.

Inexplicable fears and problems with relationships often prevail in the surviving twin. Closer relationships are either mostly avoided because the fear of losing a loved one again is omnipresent or the opposite behaviour pattern prevails in form of excessive clinging to other people. The overall symptomatology of surviving twins has innumerable facets.

How can twins born alone resolve the trauma experienced in the womb?

The first and most important step is to bring it to light. This is where a mental journey into the womb helps, which we do in the context of **BA/BOPS**, there are also other possibilities such as hypnosis, regression or body-oriented therapy, or even family constellations.

In his book Peter Bourquin describes **8 steps necessary for initiating a healing process**: I will briefly summarise these 8 steps:
1. The **first step** is to discover that one is a surviving twin, which may have been a vague assumption at first.

2. The **second step** is to gain certainty that the assumption is real, which must be followed by accepting this reality.

3. The **third step** is to establish an imaginary relationship with the lost twin. One can give him or her a name and try to get into mental and emotional contact with one's twin soul. The painful loss has to be relived emotionally.

4. The **fourth step** is to really acknowledge the existence of the twin, which gives the survivor the opportunity to finally let go of her or him. This allows for giving up a possibly unconscious identification with the lost twin and makes it possible to say farewell for good.

5. In a **fifth step,** one should think about to what extent the loss of the twin has led to living one's life in a certain way. Perhaps one has moved house very often, suffers from depression, exhaustion up to burn-out, quickly sabotages new partnerships or generally avoids new relationships. All these reflections will help the surviving twin to come to turns with the loss and to find inner peace.

6. In a **sixth step**, one should turn to one's inner child, the child who experienced the loss during pregnancy. One must learn how to comfort oneself, understand the grief and make use of existing resiliencies.

7. The **seventh step** is about uncoupling, or as Peter Bourquin describes it: "It can be very healing to say goodbye to the dead body of one's twin through a ritual or symbolic burial. Such an act is a profound gesture of acceptance and love. The grieving over the loss of the twin and over the absence of this twin in real life gradually comes to an end.."

8. Finally, the **eighth step** leads to a new life. One has relived the grief of the loss, coped with it as an adult with the help of existing resources, said goodbye to the twin, and can now finally turn towards a new life, a life without grief, fear and guilt.

How can BA/BOPS help in cases of twin loss?

There are two different situations: Either the pregnant woman is herself a surviving twin or she suspects that there was another baby in her womb at the beginning of her pregnancy which might also be revealed in the anemnesis

In the first case having been a surviving twin without consciously being aware of it and mourning that loss might impair the pregnant woman's bonding capacity. Within the framework of the **BA/BOPS accompaniment** the pregnant woman is encouraged to search for traces of a missing twin during a mental journey into her mother's womb. She makes mental and emotional contact with her twin and relives the loss. Since she can draw on other resources as an adult, reliving the pain of loss is no longer as life-threatening as it was the first time.

This journey into her mother's womb enables her to come to terms with her loss because she is being supported by Peter Bourquin's 8-step procedure.

This process is especially important for the pregnant woman's baby, because once the mourning process has been completed, there is no longer the risk of transferring the trauma to her baby.

In the second case, the pregnant woman is being led into a mental journey into her womb to look for traces of a missing twin if symptoms point to such a loss. Often there is a black spot in the uterus from which the surviving twin recoils. In such a case, the pregnant woman explains to her baby again with the help of the Inner Dialogue that she knows about the existence of a lost brother or sister. If both mourn the loss together, the unborn baby will no longer be born with the burden of such a traumatic experience.

Chapter 13: Consequences of ART (Assisted Reproductive Technology) for the baby's psychological and mental health

The most important question is: "Does it make a difference whether a child is conceived in a loving relationship or in a cold petri dish, in the sterile rooms of a laboratory?". Is the ART system a new stress marker for the developing brain that negatively affects all developmental processes?

We know now that bonding begins from the moment of conception, so, we have to ask ourselves: what kind of bonding is created within the framework of the Medically Assisted Reproduction Technology ? Do people who have been conceived in the petri start their lives without any emotional bonding? That is one question. The second question is, how does the "chosen" embryo feel, after it has witnessed that other embryos implanted together with it in the womb fall prey to the so-called "embryo reduction" or simply dissolve and disappear?

So, is conception then a traumatising experience for babies conceived through ART? Many experts in prenatal psychology answer this question in the affirmative!

The technology of medically assisted reproduction has made enormous progress since the birth of the first test-tube baby, Louise Brown, in 1978. The International Committee for Monitoring Assisted Reproduction Technology (ICMART) estimates that from that time until today, over 8 million babies have been conceived and born worldwide with the help of the ART technology.

There are different methods of artificial insemination:

In vitro fertilisation (IVF), insemination, in vitro maturation, ICSI (intracystoplasmic sperm injection) to name but a few. They all have striking affects on the psychological and mental health of the babies conceived with the help of that technology.

For Rien Verdult, the well-known baby therapist from Belgium, conception via ART is very traumatic for babies on a deep unconscious level. In his research and treatment of IVF/ICSI babies, Verdult has found that these babies show **attachment patterns** that can be described as **avoidant.**

As Thomas Verny vividly illustrates in his latest book „The Embodied Mind“ , all our cells store the memory of the moment of our conception. The circumstances of our conception cannot be separated from the emotional states that play an important role in natural conception. This also includes the often unconscious emotional parts of both partners as well as the nature of their relationship to each other.

The renowned neonatologist Jean-Pierre Relier postulates that all conscious and unconscious elements are stored in the woman's egg cells, such as her emotions, her attitude to her femininity, her sexuality, her readiness to conceive, her pregnancy, **even her own pre- and perinatal experiences.** These psychological realities find expression in her body and in the biological processes that include conception.

If the woman lives in a stable relationship, this will influence her feelings, her desires, her needs and and thoughts. The quality of the partners' relationship with each other will affect how the child is conceived. For example, if conception is unconsciously unwanted by both partners, that will have a lifelong negative impact on the baby.
Karlton Terry, one of the most internationally recognised trainers and experienced therapists in pre- and perinatal psychology, has developed a special baby therapy for birth processing. He found, for example, that IVF babies need special support for being able to perceive their own bodies". They also need help processing their emotions. Most IVF/ICSI babies feel as if they were disconnected from their bodies, they have difficulty grounding themselves and feeling relaxed in their bodies.

These babies seem to have an existential longing for wholeness, for a holistic consciousness, as obviously a splitting of consciousness occurs during "artificial" conception. IVF/ICSI babies show certain trauma symptoms such as affect regulation disorders, an awkward attitude to their body and a lack of positive physical sentience.
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Since the Caesarean section rate for artificially conceived babies is enormously high, these babies not only experience a traumatic conception, but also a traumatic birth as doctors prefer that kind of birth for these babies.

Current psychological approaches are based on the assumption that the whole treatment of infertility is already extremely stressful. The mental roller-coaster that women with an unfulfilled desire to have a child go through, the constant ups and downs between hope and disappointment, represents a massive psychological burden and can bring about more or less severe depression. As we know, this also has profound consequences for the intrauterine development of the baby.

The neonatologist Jean-Pierre Relier (a paediatrician specialising in newborns) has also made some spectacular discovery within his embryological research: even after the first cell division of the just-fertilised egg, the distribution of IGF receptors (insulin-like growth factors) on its cell walls can vary depending on the psycho-affective state of the woman. Which in turn means that the woman's mental and emotional state can reduce or increase the action of the IGF receptors. These IGF receptors control the early growth of the embryo and the vascular structure of the placenta.

In a long-term study Dr Allan Jensen from the University of Copenhagen has found that ART babies are up to 33% more at risk of developing mental disorder later in life than children conceived naturally. The risk of developing schizophrenia and psychosis was increased by 27 %, behavioural disorders such as ADHD by as much as 40 %, and even the risk of developing autism was 22 % higher than in children conceived naturally.

Embryologist Jaap van der Wal describes reproductive medicine as follows: "Classical in vitro fertilisation can be interpreted as the forced manipulation of conditions that are necessary but not sufficient for the conception of a human being. The difference to natural conception lies in the time and place. The ICSI procedure is nothing more than a biological and psychological act of violence. If you look closely, you can see that the egg contracts when the needle penetrates it, because the cell membrane is broken by the needle. Isn't that tantamount to rape at the cellular level?“

The whole artificial insemination process is organised and precisely timed. At each stage, chemical and mechanical interventions are made that affect the cells and the growth process. Even the sperm is not left in its natural state, it too is manipulated before being placed in the egg, it is for example „washed“, which alters the plasma membrane.

To summarise: In ART technology, sperm and eggs are ripped from their normal environment. They are chemically processed and then artificially combined. There is no emotional atmosphere and the emotional connection of a loving couple having sexual intercourse is completely absent. What can be experienced as a spontaneous and informal act in a lively atmosphere becomes an invasive procedure in a laboratory. Just as pre- and perinatal traumas can be re-staged later in life, babies traumatised by ART conception show very special trauma symptoms. These babies need a special baby therapy after birth that focuses on prenatal trauma.

So, the question is how can the BA/BOPS method be used to prevent that kind of prenatal trauma?

If the anemnesis shows that the baby was conceived through ART, the description of this procedure can be embedded into the Inner Dialogue the mother has learnt to conduct with her baby. When the pregnant woman is in the state of deep relaxation, the bonding analyst instructs her to mentally go through the whole act of conception by sending the corresponding images to the baby – which reach as we well know the baby's brain - and explaining the reasons why it could not be conceived naturally.

If an embryo reduction has taken place, mother and baby mourn the loss of the siblings together. The mother sends her feelings of grief and sorrow to her baby thus mirroring the baby's own grief. That way she conveys to her baby the message that she perceives, understands and sympathises with his suffering. The baby gets the message that its grief has been noticed thereby largely mitigating the traumatising effect of the conception. This procedure ultimately has a strong healing affect.

CHAPTER 14: BIRTH PREPARATION

Ideally, the final **BA/BOPS** sessions begin in the 36th week of pregnancy. Approximately 10 days prior to the estimated birth date the BA/BOPS accompaniment come to an end. During the so-called birth preparation phase 6 to 8 baby sessions are being scheduled with two or three days in between.

These final baby sessions are about preparing for the upcoming separation process and dealing with any remaining issues. The main topics are separation on the one hand and reunion on the other. The pregnant woman prepares herself to giving birth and the baby prepares itself to being born.

Raffai has worked out precise instructions that are to be read to the pregnant woman who in turn will repeat them to her baby via the inner dialogue.

The mother has to let go of her baby in her womb and the baby has to get ready to leave its intra-uterine home. Mother and baby exchange their memories about everything that happened during the pregnancy, that will facilitate the separation process. Both will also review all issues raised and processed during the Bonding Analysis process. It is quite common that mother and baby have and express different memories.

In one of the closing sessions the mother describes to her baby the entire birth process and what will happen to the baby in the first minutes and hours after the birth by sending concrete images of the whole procedures.

In the very last session, mother and baby practise the so-called „birth rehearsal“. Again Raffai has set up clear instructions for this rehearsal which the mother has to practice every day until the moment when birth starts.

Mother and baby stay in mental and emotional contact during the complete course of the birthing process. They not only share this experience consciously but master it in unison.

And this is why Raffai's Bonding Analysis method is absolutely unique, no other method contains the idea of mother and baby going through the birthing process together.

Chapter 15: Epigenetic programming and transgenerational transmission of trauma

For many years, all research carried out within the framework of the new and revolutionary science of **EPIGENETICS** has yielded the most amazing results. Every month, every week scientists all over the world publish new and astonishing discoveries in the field of epigenetics. The corresponding literature is so abundant and has taken on proportions that go beyond the scope of this presentation.

Let me just briefly explain some essentials:

The term epigenetics is derived from the Greek word „epigenesis“ which originally described the influence of genetic processes on development. Epigenetics is the study of heritable changes in gene expression that do not involve changes to the underlying DNA sequence, which in turn affects how cells read the genes.
What does an epigenetic code look like? Through the so-called methylation process (which is a key epigenetic mechanism that controls gene expression) small molecules, so-called methyl groups, consisting of one carbon atom and three hydrogen atoms, dock onto the DNA strand and thus prevent the subsequent gene sequence from being read and translated into a protein. In this way, the gene is switched off.

The second role in epigenetic marking is played by so-called histone acetylation. In order for the approx. 2 m long DNA strand of a cell to fit into the tiny cell nucleus, it must be packed very tightly. The strand winds around up to 100,000 beads, the histone complexes. In order to activate the genes located there, the genetic material must first be unpacked. Small molecules, the acetylcholine groups, help to loosen the DNA strand and make the genes readable at this point. On the map of the human genome, one can then mark the places with the special molecules and in this way obtain the epigenome as a second code.

Epigenetics will certainly play an increasingly important role in embryogenesis, especially in the context of ART technology because environmental influences produce transgenerational epigenetic effects which lead to epigenetic changes in the germ line that have an impact on the psychological and physical health of subsequent generations.

With regard to the Bonding Analysis I will focus on the influence of epigenetic programming on the unborn baby and how transgenerational transmission of trauma can come about.

Raffai calls the womb a **MULTIGENERATIONAL SPACE** that contains epigenetic markers of the parents of the parents-to-be, of the two respective grandparents and maybe of more ancestors. Experiments with mice have now shown evidence of the transmission of trauma up to the seventh generation!

The passing on of abilities to the next generation is called "transgenerational transmission of acquired characteristics". Via epigenetic changes in the germ cells, these features are being passed on to the next generation.

Pregnancy, birth and early childhood are highly sensitive life phases in which traumatic experiences can leave profound psychological scars that are inherited via the epigenetic structures. The formative emotional experiences of parents, grandparents and ancestors are passed on to each younger generation in different ways and via different channels.

Epigenetic inheritance, especially transgenerational epigenetic inheritance is an important topic in epigenetic research. Do we pass down epigenetic marks to our children as a result of our lifestyle, behaviour or experiences? Can this occur even long before conception and during pregnancy? Epigenetic studies show that the actions of the parents-to-be can have long lasting effects on the baby's psychological and physical health.
During pregnancy mothers can influence epigenetic marks on their offspring's DNA, determining how for example their baby will react to stress and how it will develop resilience. Epigenetics set the threshold for possible stress responses.

Countless people over many generations have experienced a style of upbringing that has created relational disorders in the form of attachmentlessness. Attachmentlessness turns into relationshiplessness and vice versa. Many attitudes experienced or held by parents and grandparents are passed on - unconsciously and unintentionally, of course - to the unborn grandchild. This happens within the multi-generational womb space because the baby lives in a very complex system of relationships during pregnancy.

Researchers have found that human relationships in terms of specific attachment patterns have a strong influence on the epigenome and thus on the baby's mental health. If a baby receives too little love, security and care pre- and postnatally, not only do attachment problems develop, but also biologically verifiable disturbances in its stress hormone system.

According to depression researcher Florian Holsboer, "Trauma not only scars the soul, it also scars the genetic make-up. And since these scars are also part of the genetic material in the germ cells, the probability that they will be inherited is very high."

The latest findings of biology confirm that even a cross-generational cell memory exists. If the pregnant woman is expecting a girl, the egg cells develop in the body of this unborn girl as early as the eighth week of pregnancy; these egg cells stay in her

own mother's body for many years. And before that, while the mother is still an unborn child, for many months additionally also in the body of the grandmother. So, the habitat of the pregnant grandmother can have a direct influence on the germ cells that will later produce the grandchildren.

Now, what does transgenerational transmission of trauma exactly mean? It is obviously a kind of "emotional inheritance"

Knowledge about the transgenerational transmission of traumatic experiences has emerged primarily from research on the impacts of the Nazi regime, especially with regard to the survivors of the Holocaust. The findings led to the conclusion that the transmission of traumatic experiences from parents to the next generation severely also influence further generations that followed the survivors.

Transgenerational transmission describes a process in which the parent generation passes on to the children's generation "their ideas, values, behaviours, also feelings of shame and guilt, as well as their secrets and unprocessed traumas". **Parenting probably represents the best-known form of transgenerational transmission.**

Thus, the transmission of traumatic experiences involves mechanisms of transmission and countertransmission of information, values, and attitudes. Basically, transgenerational transmission is a completely normal process in which the older generation passes on its experiences to the younger generation, which then absorbs the emotional heritage and, if necessary and possible, develops it further. The decisive factor here is what the children's generation does with the experiences, whether they are stimulating or lead to blockages in development and are then traumatizing. Unprocessed or unconscious traumatic experiences of the parent generation are passed on to the next generation and trigger trauma.

This following generation integrates the traumatic experiences of the parents into their lives, meaning that they live both with their own experiences and unconsciously memorizes the experiences of their parents.

Transgenerational trauma usually involves bonding and attachment trauma, which shapes a child's life long before birth, as I explained earlier, from conception on. The intermingling of the child's own life history and the history of the parents means that the child is impaired in the development of its own identity. An ego split occurs and the ability to relate can be massively impaired.

Psychologically speaking, many parents have remained stuck in their traumatic experiences without being aware of their origin and especially not realizing the emotional deficits that were afflicted on them.

How can the transfer of traumatic experiences be prevented?

In that respect **pregnant women can play a decisive role.** They have the extraordinary chance to influence their baby's development in such a way that no transfer of traumas occurs!

In this context, the pregnant woman's biography and her bonding capacity and quality are of central importance. To strengthen both capacity and quality is the main objective of the **BA/BOPS** method.

If pregnant women are too busy with their own past or even still caught up in it, all bonding attempts might fail. The prenatal baby might then be placed in a position where it is forced to live the inner life of its mother by re-experiencing her repressed or unconscious issues. This might lead to the baby eventually taking on feelings of responsibility, guilt or shame.

Moreover, the unborn baby is confronted with its mother's neediness at a very early stage. This leads simultaneously to a symbiotic dependence as the baby feels responsible for taking care of its mother. As a result, the baby cannot distinguish between its own psychic world and that of its mother. The baby cannot develop the sense of having an independent self.

This brings us back to what Raffai discovered when he worked with his psychotic adolescents. Those young people did not have the cognizance of their physical boundaries either.

Longitudinal studies that have shown that securely attached mothers - as well as fathers - more often also have securely attached children, as well as insecurely attached mothers or fathers also have insecurely attached children. **Thus, attachment/bonding styles are passed down through the generations.** The attachment behaviour of the mother has a strong influence on how attachment behaviour develops in her baby. Insecurely attached parents thus pass on their traumatic attachment experiences to the child. And the earlier trauma occurs, the more severe the impact on the baby's psychic development is.

For a healthy development of the mother-father-child bond, processing parental traumas is a must, because if they remain untreated, they are reactivated in the child. Traumatic experiences are then repeated and passed on to the next generation. Primary prevention to promote a healthy parent-child development - **via prenatal attachment/bonding** - can break such vicious circles.

Researchers working in the field of epigenetics have also established that epigenetic changes - in contrast to genes, which cannot be changed - are always possible.

To summarize: pregnant women have a unique opportunity, especially during pregnancy, to prevent the transmission of transgenerational trauma to their unborn child. Working with the "**self-care" concept** I have developed can make a major contribution to this, because the pregnant woman has to deal with her emotional deficits, learn to take good care of herself and is finally able to detach herself emotionally from her father and mother.

The application of the **BA/BOBS** method in combination with the "self-care" concept can pave the way for the transfer of positive experiences and thus practically "give birth to a new humanity" and make Eva Reich's statement "peace begins in the

womb" a reality.

I will now as I mentioned earlier read out to you the case history of Annette which is an example of a very successful Bonding Analysis proving that this revolutionary method was able to prevent the transfer of trauma.

Annette, 24 years young, student, unmarried, comes to me in the 13th week of pregnancy. She is very unhappy about her pregnancy. The father of her baby is also a student, she only met him a few weeks ago. For Annette, he is out of the question as a life partner. She is in a dilemma. Before she contacted me, she had thought long and hard about a possible abortion, but finally decided against it. Only she cannot accept her baby yet.

Annette is plagued by conflicting feelings. On the one hand, she feels unable to have an abortion - she comes from a strict Catholic home - but on the other hand, she doesn't really want the baby. This unwanted and unplanned pregnancy has made her life situation very difficult, also because she cannot hope for any support from her parents, especially not from her mother. I got the impression that she was very afraid of her mother in particular. I told her that we would deal with this issue in the course of the Bonding Analysis and she was quite surprised that this was part of the Bonding Analysis.

We first talked about the feelings that came up in her when she was asked to mentally imagine the foetus in her womb. She openly admitted that when she found out about the pregnancy, she had felt great disgust about this foreign body that had taken up residence in her without being asked. She suffered from severe morning sickness, which led her to think hard about the possibility of terminating the pregnancy. She resented her baby for missing many lectures because of these difficulties.

We then talked about her partner and I asked her to describe her relationship with him. How had he reacted to the news that he was going to be a father? He was horrified, insulted her and accused her of getting pregnant on purpose to force him into marriage. He demanded that she have an abortion immediately, and they got into a heated argument about it. This had hurt Annette very much, but on the other hand it had given her the strength to break off her relationship with him completely.

After her break-up with her boyfriend and her decision to keep the child, she had gone to her parents to tell them about the pregnancy. The parents had no understanding for her decision to keep the child, but since abortion was out of the question for them either, they asked their daughter to give the child up for adoption immediately after birth. Annette felt very hurt, which did not make it any easier for her to adopt her baby. On top of that, her mother clearly preferred her brother, who was two years younger than her. Worse still, her mother had made it quite clear to her that she was very disappointed about the birth of a girl. In this context, we talked for a long time about the meaning of womanhood, femininity and motherliness

As far as the circumstances of her own birth were concerned, Annette only had the information that she had come into the world three weeks early, that the contractions

had stopped at some point and that she had to be delivered with forceps. Her mother had not breastfed her, but there was no information about the reasons for this.

Annette made it very clear that she felt completely overwhelmed by the whole situation because she no longer knew how to plan and manage her future. It was very upsetting to her that she would probably have to give up her studies, which would certainly make her a failure in her mother's eyes.

The first time I asked her to mentally enter her womb, a sense of panic rose in her. She said she felt something like a guilty conscience for having rejected the baby so strongly at the beginning of the pregnancy. I asked her what her mother's rejection of her was doing to her. She admitted that she sometimes felt quite intense anger, but she had never been able to explain it.

In the following baby sessions she tried again to go mentally into her womb, but still felt completely blocked. I suggested whether the blockage might be related to the fact that the womb is the most significant female sex organ? Since her mother had rejected her femininity, it was very possible that she had internalised this attitude. What would happen if she herself not only accepted her femininity but also valued it? This could lead to her breaking away from the mother's attitude and allowing herself to have her own thoughts and feelings.

But when she found out during the second ultrasound examination that she was also expecting a girl, she was completely upset. We dealt with this in great detail. Annette admitted that she had always suffered greatly from her mother's disdain and had never understood intellectually why a boy was loved more, was obviously worth more than the daughter in her mother's eyes.

She then wondered how she could accept a female baby inside her when she found it so difficult to accept her own gender? When she relaxed, I told her to tell her baby exactly that.

In the inner dialogue with her baby, she should tell her that her own mother did not actually love her because she was a girl, but that she would be happy about her daughter and come up with a beautiful name (Valerie) for her that was special. Afterwards, Annette reported quite astonished that she had not found this dialogue difficult!

In the next baby session, I asked her about her thoughts towards her baby. Did she still feel that her baby was a burden or could she also imagine that her daughter would enrich her life? I guided her in deep relaxation to visualise the baby's future life, first independently of her own. She was asked to imagine his life in a nursery, then in a kindergarten and finally in school. She succeeded quite well, but when she was asked to imagine her own further career, she felt despondency. She saw no perspective for herself.

She brought good news to the next baby class, because she had found various addresses where she could get help and that had given her a lot of courage. I

encouraged her and explained that the very fact that she had moved so far away from her parents showed her legitimate need for independence and self-reliance. Her baby was basically a fantastic opportunity to continue on this path consistently.

During the relaxation afterwards, she managed to see the concrete baby in her womb for the first time. I asked her what she felt when she did this and she said, "Warmth in the whole abdomen."

In another baby session, she suddenly remembered her grandmother, who had obviously shown her real affection. She had often spent the night at her grandmother's and felt very comfortable with her. She had an aunt, her father's sister - who was very similar to her grandmother and with whom she had a good relationship. This abruptly gave her the idea to visit her aunt.

At our next baby class, Annette told us with joy that she had gone baby shopping with a friend and that she had indeed chosen the things for her daughter with a lot of love. Since her visit to her aunt, she had kept in close contact with her, because she received a lot of support from her. She hardly spoke to her mother on the phone any more and she didn't really mention her father at all.

I asked her to go back to her womb in relaxation, to smile at her daughter and greet her lovingly. Smiling at her had become very important to her and I explained the function of the mirror neurons.

In the next baby session, during the relaxation phase, I instructed her to reassure her baby that they would love her, protect her and give her security. At this stage Annette was happy about the baby movements and told me that she was proud of her baby bump by now! She would talk to her baby a lot between our baby sessions and she now saw her daughter as an ally rather than an enemy.

Her aunt had offered to move in with her. She would also be willing to take care of the baby if Annette resumed her studies. Annette had actually decided to start a more "feminine" study and enrol in a fashion design school.

She was aware that this decision would cause a heated argument with her mother, but she felt so empowered in the meantime that she would be able to plead her case to her and ultimately for the welfare of her baby.

Annette realised in the course of the Bonding Analysis that she had a legitimate need for independence and self-reliance and that her baby was basically a fantastic opportunity to continue on this path consistently.

What was discussed, stimulated and visualised in the individual baby sessions triggered a process of development and maturity in Annette. Her baby had significant bonding experiences, from the first rejection to complete acceptance. This enabled her to cope well with her initial traumas. Bonding Analysis has helped Annette to grow up, to detach herself from her mother in order to devote herself fully to her baby. She has gained self-confidence, new courage and no longer sees her daughter as an

enemy, but as an ally with whom she will master her future life together. Raffai would say, "She has gone from being her mother's child to being her child's mother."

Without the Bonding Analysis, the transference of a daughter's rejection would have occurred and Annette's suffering would have continued in her daughter. Annette has been able to question her mother's negative attitude, thus it became possible for her to separate herself from her mother and to allow herself independent thoughts and feelings. Annette was strengthened in her womanhood, her femininity and motherliness through the Bonding Analysis and will be able to pass on this new attitude towards life to her daughter.

Testimonies of women having been accompanied with the Bonding Analysis method

Jana: "The delivery of my first child lasted over 12 hours. The pain between contractions was pure hell. Despite the epidural anaesthesia I was still in great pain. I felt a huge weakness in my whole body so that the contractions stopped. So I was given an infusion to reactivate the contractions. When the expulsion contractions started, I had no strength to push. The midwife used Wood's manoeuvre so brutally that for weeks after the birth I suffered from bowel and bladder incontinence. In addition my baby had the umbilical cord around his neck and with each contraction the cord tightened a little more. Finally after 12 hours of torture my son was born.

With the help of the specific instructions that are part of the APPA method to prepare birth, my second son's birth was completely different. When I felt birth coming on, I turned very calm, the contractions were getting faster but the pain was absolutely bearable. My husband took me to the clinic where I had a relaxing bath and talked to my baby and he told me that he was ready to be born. The birth lasted only 2 hours, an epidural was not necessary, the pain was tolerable. Thanks to the mental contact with my baby during the birth procedure - which I had practised according to the instructions given - this time birth was an act of joy, calmness and serenity.

Sabrina: "Birth went very well. The obstetric interventions were minimal. There were only 2 hours between the first contractions and the birth of the baby. The little lady is very alert and attentive. The mental birth preparation made me live through a totally different experience than at the end of my first pregnancy. It had a conciliatory and healing effect."

Anne: "As I was told, I explained to my baby through the inner dialogue that I regretted having had such negative thoughts just after conception when I was pondering about a possible abortion. I deeply apologized to my baby and told him that his dad and I were so very happy about him! And you won't believe this, my son sent me the picture of a white dove and I immediately understood he had sent me a dove of peace as a sign that he had forgiven me! (Anne returned from deep relaxation with tears in her eyes)

Annette: "The beginning of my pregnancy was a nightmare for me and I could not imagine that I would be able to love this little being in my belly, on the contrary! The APPA method worked a miracle and I am now sure that I will be a very good mother to my daughter! The APPA method also helped me to stop being afraid of childbirth. The fact that my baby and I were in mental contact throughout the birthing process made me forget about the pain, as I was so focused on the contractions and the instructions I was giving my baby to better pass through the birth canal.

Lea: "I was really not happy about having twins, especially because of the delivery procedure. My eldest daughter's delivery had already been a horror and I needed a lot of time to get over it. I have a friend who gave birth to twins and she told me that the gynaecologist insisted on a Caesarean section, which I wanted to avoid at all costs. Thanks to the instructions I received and which I passed on to my babies with

this wonderful inner dialogue, my babies and I could really have a natural birth. There was no question of a Caesarean section being necessary, as the birth process went very smoothly and without any complications.

Susanne: "My husband and I were sure that we were expecting a boy. We both took part in an A.P.P.A. session together and in that very deep relaxation state, when the exchange of images or words between us and our baby become possible we asked our baby if he was a boy. I received images of myself as a little girl and my husband received images of his friends' babies who were all girls. At that moment, we understood that the baby in my belly was a girl! Fortunately this inner dialogue took place in time otherwise this little being would have spent the pregnancy in fear of not being accepted as a girl!

Brigitte: I was expecting my third child, it was an unexpected and not much desired pregnancy. My two previous pregnancies had gone very badly, both times I gave birth prematurely. My first son was born in the 27th week and my second son in the 28th week of pregnancy. Both of them had to stay in the hospital for more than 4 weeks. It was really terrible and I was very afraid that it would happen a third time. During the sessions, I was given very special instructions to transmit to the baby in order to prevent premature delivery. During these sessions, we talked a lot about my relationships with my mother, my father and my husband. To my surprise, these dialogues led me to understand that I had unconsciously adopted my father's negative attitude towards my husband. I had always been my daddy's darling always his little princess, but even after I got married he kept looking after me and still spoiling me. As he was always very kind to me, I didn't dare reject his offers of help. This emotional dependence had almost led to a breaking up of my marriage and at the same time it had had a negative effect on my first two deliveries. I had to stop my father from being so helpful all the time, so I needed to learn how to set limits for him which was very hard for me at first. It took me awhile to accept that whenever he was hurt by my rejection, it was his problem and no longer mine! The personal development I underwent had the extraordinary effect that my third son was born at full term, in the 40th week of pregnancy!

Sonja: Since the age of 17 I have been suffering from anorexia which in the long run had made me infertile. When I got married 10 years later I had to undergo hormone treatments to be able to conceive a child with the help of the reproduction medicine. I spent months and months swaying between hope and disappointment. Finally, all these treatments paid off and I got pregnant. But the pregnancy didn't suit me and the anorexia got worse and worse. Towards the end of the pregnancy I had to be hospitalized and artificially fed. I had lost so much weight that I didn't have the physical strength to give birth to my son and the birth was very traumatic, especially for my son.

Despite these tortures and painful experiences I wanted a second child at all costs. So I went through the same procedures for the second time, hormone treatments and reproduction medicine. Again, after many months, I was pregnant again. A friend of mine had told me about the BA method because she thought that

this method could eventually help me to have a better pregnancy and easier delivery. The main topic during almost all the sessions was the origin and cause of my anorexia. I really went through an extraordinary development, self-understanding and self-reflection process. I was getting better and better every month. The birth preparation helped me a lot and made me really relaxing when I had the first contractions, Within two hours my second son was born without complications, without any trauma.

Testimonies of course participants

Gudrun, midwife: Learning the APPA method has opened up new horizons for me and has enormously enriched my professional activity as a midwife. And to my great pleasure I have noticed that more and more pregnant women are looking for midwives who have learnt this method. The course material is presented in a very understandable way and one does not need a degree in psychology to follow the explanations and instructions. The training course is very complex and compact, which makes it possible for us to start applying this method immediately after the end of the course.

Andrea, midwife: After receiving several requests from pregnant women about prenatal support, my curiosity was aroused and I asked around. The women who had contacted me had discovered this new method A.P.P.A. that helps women to get into mental and emotional contact with their unborn babies. They were so enthusiastic that they absolutely wanted to be accompanied by this method. So I immediately enrolled in the training course which enabled me to meet the needs of my clients. The impact that this method has on pregnancy and birth process is truly extraordinary, especially with regard to the birth giving procedure through which neither mother nor baby are being traumatized.

Manilla, midwife: It was by chance that I discovered the training course to learn the APPA method. When I read the description of the course I knew that I would be fascinated by this training. And rightly so, especially since Christa is the only one to offer this unique training. My first client was a young woman who had become pregnant and did not want any children at all. I accompanied her for 6 months and in the end she was so happy to have a beautiful baby after an easy and uncomplicated birth. My second client was expecting her second child. The birth of her first child had been extremely traumatic. I accompanied her from the 22nd week of pregnancy onwards she gave birth no obstetric instruments needed to be used. I love working with that method!

Claudia, psychologist: There is still no comprehensive university courses to learn everything about prenatal psychology. And I was very surprised that this subject was presented in such an understandable way that the other participants, midwives, doulas, naturopaths, etc. could follow the given explanations easily. And what was especially important for me, was the fact that the presentation of the main elements of prenatal psychology was sufficiently comprehensive that it really enriched my knowledge of general psychology.

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About the author

Christa Balkenhol-Wright obtained a diploma in translation from the University of Geneva in Switzerland). She worked for many years in the language and translation service of a German ministry, specialising in psychology, medicine, biotechnology and biomedical engineering.

Since 2002, she has worked as a freelance lecturer at various universities in Cologne, Düsseldorf, Krefeld, Mönchengladbach and at RWTH Aachen University, teaching a wide range of subjects in English and French.

As she had always been keenly interested in psychology instructing herself auto-didactically, she inevitably came across prenatal psychology, which she claims has offered her all answers to questions that no other psychological approach could give her. And that was even more true when she learnt about the existence of Raffai's Bonding Analysis. She organised and attended Dr Raffai's last three-year BA training course which he ran together with Dr Ludwig Janus in Cologne. In 2016 she become certified as Prenatal Bonding Analyst. In addition, she was trained in hypnosis and regression techniques.

In 2018, she published a book together with 9 Austrian and German Certified Bonding Analysts describing theory and practice of Bonding Analysis giving illustrative examples of case histories which show how highly effective the Bonding Analysis method is.

Since 2016, she has been accompanying pregnant women with the Bonding Analysis also offering online courses in German, English and French since 2016. She set up her own concept of promoting prenatal bonding naming her concept “B.O.P.S. - Bonding-Oriented Pregnancy Support“ which she described in this booklet.

Her main aim is to train all professionals dealing with pregnancy and birth in the broadest sense, thus creating a global network allowing to spread around the knowledge about the significance of prenatal life and experience .

To this end, she founded the **"Academy to Promote Prenatal Attachment" - "A.P.P.A."** and joined the following organizations, all of which are concerned with the importance of prenatal life: ISPPM, BTNH, GAIMH and Prenatal Alliance.

Under the aegis of APPA, this booklet will be translated and published in various languages. English, French, Italian, Spanish and Hungarian editions are already available and will soon be followed by the Dutch, Turkish, Slovenian, Greek, Polish, Portuguese, Arabic and Danish translations!