



HUMANAE VITAE AND THE ADVENTURE OF A MEDICINE AT THE SERVICE OF LOVE

René Ecochard, University Claude Bernard Lione (France)

At the end of an introductory course about knowledge of the female cycle imparted by my wife to the students of medicine, the head of the Department of Gynecology and Obstetrics came near her and said: "This is the first time that I hear somebody talking of love at the faculty of medicine! In effects, speaking of the biological times of the cycle, that the Humanae Vitae invites to welcome as a gift given by the Creator, HV had naturally expressed that these times were an alternation of ways of expression of love inside the couple... Speaking of fertility means to speak of love.

"As every other problem regarding the human life, the problem of the birth-rate must be considered, beyond the partial perspectives - biological or psychological, demographic or sociological - in the light of an integral vision of the man and his vocation, not only natural and terrestrial, but also supernatural and eternal. (Humanae Vitae 7)

This application of an integral vision and the invitation to the pastors to make every effort for " Giving to the bridegrooms and the brides advices, wise suggestions and solid guidelines for which they are justly waiting. (Humanae Vitae, 27 years) many doctors, surgeons, midwives and researchers have launched in the adventure of the medicine at the service of love.

The twentieth century has seen a great development of the conjugal spirituality: "Associating the human one and the divine one; such love brings the married people to offer free and mutual gift of themselves that manifests with feelings and gestures of tenderness and it permeates all their lives. (Gaudium et spes 49). This first intuition drove the work of focusing on the temperature ("method of temperature" therefore "sympto-thermal method") before the writing of Humanae Vitae; that work allowed so many couples to suit/adapt their own sexuality to the rhythm of their fertility.

In these lines, we introduce some important aspects of the discoveries risen in answer to the call of Paul Vi:

- * Physiological discoveries
- * Medical discoveries
- * A renovation of the medicine

PHYSIOLOGICAL DISCOVERIES

THE CYCLE IN THREE TIMES

Before Humanae Vitae, it was tradition to define two periods of the cycle: the period pre - ovulatory and the period post-ovulatory separated by the ovulation. It was custom to say that the couple was fertile more and more during the phase pre - ovulatory, without absolutely distinguishing an infertile period at the beginning of the cycle.

The researchers that work in the associations founded in answer to the call of Humanae Vitae have discovered that this division in two phases of the female cycle was insufficient! Thanks to their work, it has been accepted that the period pre - ovulatory is divided in two parts: one, absolutely infertile, and the other,



fertile. There are then three periods in the cycle. The first one has been called the period of latency. It begins the first day of the menstruations and usually can last some days, but sometimes few weeks. The second is the fertile period, that begins with the reception of sperms by the mucus secreted in the cervix and it finishes approximately one day after the ovulation. The third one is the period post-ovulatory, that extends from the end of the fertile period till the menstruations, if the egg is not fertilized, or till the child's birth, otherwise.

This way the first discovery done in answer to the invitation addressed by the Blessed Paul VI to physicians and researchers is ample: it concerns the understanding of the same female cycle, that contains three periods and not only two. This division in three periods is to a large extent the result of the development of the method Billings.

THE SURVIVAL OF SPERMATOZOIDES

Greatest probability to conceive a child from an intimate union that is near the ovulation was previously explained by the duration of the sperm: it was thought that if a couple had sexual intercourse different days before the ovulation, the sperms had not survived for long time enough till the day of the ovulation.

Thanks to the data picked up by the associations of the European natural family planning, the mechanism to increase the fertility in the approach to the ovulation is better inclusive: in the week before the ovulation, nearby the ovulation, the probability of conception is tall if the mucus that is observable at the vulva is fluid (type of mucus of peak) and contrarily the probability is weak if the mucus is thick. The principal cause of great probability to conceive a child from an intimate union is verified next to the ovulation. It seems to be at that time the presence in the cervix of a more favorable mucus for sperm preservation/storage.

The neck of the uterus (cervix), Biological Valve

In the scientific circle of doctor Billings, a researcher has radically renewed the understanding of the physiology of the cervix. This is doctor Erik Odeblad. Thanks to his work, the cervix has changed the state! In a simple passage from which it secretes a dense or fluid mucus, the cervix is now as a real residential building for the sperms. It facilitates the entry and the survival of the sperms. The mucus, in the meantime, has passed through the states of density and liquidity to a rather notable environment for its sophistication, opposing itself to an entry of infectious agent in the uterus. In that period, mucus forms an immovable dyke preventing any intrusion of microbes in the uterus. In the fertile period, contrarily, mucus is fluid and entertains the sperms, but for its enzymatic nature its flow rejects the microbes towards outside.

How example all these discoveries were at the disposal the scientists in contact with the agencies of diffusion of the natural methods of birth control. Erik Odeblad discovered a kind of granules of enzymatic secretions in the superior part of the cervix when the ovulation is imminent. These enzyme granules received their name from the observation by the woman of a so-called Peak mucus (granule P as the Peak). These enzymatic granules fall from the superior part of the cervix to facilitate the passage upwards of the sperms at the imminence of the ovulation. The sperms are brought therefore to the egg passing from the uterus and therefore to the trunk thanks to the flow of fluid mucus, up to the egg that attends in the external part of the ovary, ready for the use.



Three different/distinguished hormonal periods

Before *Humanae Vitae* (and, once more, in the greatest part of the universities) the menstrual cycle was exclusively introduced to future doctors, midwives and nurses only in the context of the conception of a child. It is therefore why the cycle is abolished by the contraceptive pill prescribed to the women that don't desire to conceive a child. The suppression of the cycle is also prescribed as an answer to various troubles like the pain during the menstruations or the disturb that precedes them (syndrome pre – menstrual).

Nevertheless, the menstrual cycle is not exclusively directed to the conception of a child. The three periods of the cycle are three distinguished hormonal periods. The period of latency is a period of rest at the hormonal level because estrogens and progesterones are at a low level in the body of the woman. The fertile period is a period of strong estrogenic impregnation (hormones of the femininity). In the post-ovulatory period the estrogen and the progesterone are both at high-level, with a predominance of progesterone (maternal hormone).

The body is therefore alternatively in a climate of relative hormonal rest, therefore the estrogenic climate develops the female dimensions of the woman, and finally the progestin climate that develops primarily her maternal dimensions. Now, the receptors for these hormones are present in many parts of the body, more particularly in the brain. The complementarity between man and woman has a biological support maintained by the hormonal equilibriums. It is useful to preserve these delicate equilibriums for the woman, but also for the society that founds on the complementarity of the female one and the masculine which participate in the hormonal equilibriums.

Maintaining the menstrual cycle, so as the medicine described it in answer to the calling of *Humanae Vitae*, maintains also the "hormonal seasons" of the female life and therefore of the family and of the society.

MALE AND FEMALE

The Creator has given the possibility to be husband and father to the masculine man. To the woman has received the opportunity to be wife and mother. These different and complementary possibilities furnish the masculine and female attributes that men and women can develop in every time of the life: we are men or women beyond our potentialities as married people and parents, but shaped by this possibility. "The duality of the sexes was wanted from God, so that the man and the woman together were an image of God, and as Him a source of life" (Talk of Paul VI Notre-Dame, Monday May 4 1970)

What can illuminate this point is a simply observation of a flower: it is done for the transmission of life. It is for allowing its fertility to have pistils and stamens. It is for attracting the bugs that it spreads its petals and it spreads its fragrance. But its beauty is for the joy of everybody over the principal reason for these attributes that allow the transmission of life there. The same is valid for men and women. Our physiology founds on



our potential function of fertility, married people and parents. This physiology offers them strength and vulnerability, the dynamism and beauty to men and women, their abilities to take care and so on.

Just as for "to understand" the flower, it is necessary at the same time to remember its mission of fertility and its mission of beauty that enchants the nature, it is necessary to understand the physiology of the man and the woman that is opportune to take at the same time, the mission of nuptial life, fertility and parenthood and the complementarities that derive from the masculinity and femininity for the personal life and the life in the society.

THE FEMALE CYCLE, calling for CARE

The evolution of sexes has been obtained with the gradual acquisition of ability in growth. Every of these acquisitions has been accompanied by the loss of what is useless or inconvenient. Then, how to understand sometimes the violent pains that accompany the menstrual period? Why has the evolution maintained this trouble, that is very embarrassing sometimes for the women? This question has not received an answer yet.

Other aspects of the vulnerability are to be explained because they accompany the fertility and the transmission of the life. This way, for instance, the amazement we feel in front of the newborn children, so fragile the first years of life, it is an invitation to take care of them, that is necessary for their survival. We are both surprised on the one hand and worried for their vulnerability on the another. This anxiety is originated when we face the vulnerability of whom is in the need: it is the empathy. The empathy is a second mechanism that invites us to take care of someone. Then, the wonder and the empathy are two incentives that call us to go out of ourselves and to serve those people who surround us. The importance of these mechanisms has been found and confirmed in a big number of animal kinds.

The subtle equilibriums of the female cycle must be studied keeping in mind the delicacy of the human equilibrium in which wonder and empathy have been set by the Creator as an invitation to take care of it and mutually one of another. Once more, we see the importance of the calling of *Humanae Vitae* to the researchers: "So the men of science, and the Catholic researchers, will especially help to show from the facts that, as the Church, teaches: "there cannot be true contradiction between the divine laws that regulate the transmission of life and those that favor an authentic conjugal love (*Gaudium et spes* 5 1)"" (*Humanae Vitae* 24).

THE HORMONES OF LOVE

The biologists have underlined the action of the hormones in the field of the fertility and the transmission of life. For example, the oxytocin, secreted by the post - hypophyse, it has been introduced as the hormone of the expulsion of the milk when the mother feeds her child with the breastmilk. But some enigmas have progressively emerged: if the oxytocin has the only function to throw milk during the suction, why is it present in the men too? Why does the woman have thick concentration of oxytocin in the blood during the birth of her child, that is before any nursing with the breast? Why do the men (husbands) have high-level of oxytocin during the intimate union?



The riddle has found recently its solution: oxytocin, vasopressin ADH also named antidiuretic hormone (another hormone secreted by the post - hypophyse), dopamine and prolactin are hormones involved in the process of attachment: attachment to the newborn child, attachment among the consorts, etc.

The hormonal trials whose mechanical action has been observed in parallel have an action to level the human relationship, to level love. We make two examples: the action of the oxytocin for the expulsion of the milk has at the same time an action that favors the mutual attachment between mother and child; another notable example is that verified when a man is married: the oxytocin favors the attachment of the woman to her husband (and vice versa), but it also directs the transport of the sperm toward the trunk in which the egg is preparing. This way the post hypophyse acquires the noble recognition to be an organ of primary importance in the processes of attachment between parents and their children, as it is in general the attachment to what surrounds us.

The respect for the delicate mechanisms of the fertility and the adaptation of the sexuality to the rhythm of the fertility, required by *Humanae Vitae*, invites us to protect the wonder that the creation has done for love and fertility, intimately linked to all accounts in our personal biology and to the biology in general.

MEDICAL DISCOVERIES

Increase the possibilities of conception

The knowledge of the fertile period allows the couple to increase her own possibilities to conceive defining the days of great fertility. Nowadays they are known, as we have explained above, through the mucus's observation by the women, more than from the proximity of ovulation. The physicians that work in contact with the associations of natural family planning have helped a lot of hypofertile couples giving them this simple suggestion: "to live the intimate union on day characterized by the most fertile flow at the vulva of mucus of peak type ". The practice has shown the benefit of these suggestions at least when the window of secretion of the mucus of peak is brief, that last only a little bit or one day or two. The conditions in which this suggestion is useful, nevertheless, are little known: this remains a field of search. Further results show that the labor unions every other day, damage the possibility of equivalent planning.

Enriching the MEDICAL PRACTICES IN CASE OF hypofertility

Since 1960 around, it is common to prescribe a progestin to strengthen the action of the corpus luteum and to reduce so the risk of spontaneous abortion. This progestin is arbitrarily given beginning from the 15 ° day, even if the ovulation has not happened yet. In this case, this practice can reduce the probability of the conception in two ways: jeopardizing the quality of the cervical mucus as result of the progestin and interrupting the ovulation.

Before 1970, the physicians that taught the natural methods of control of birth control (in France, for example, the Dr. Rendu, of which the medical registers were preserved) they had the habit to prescribe this support of the lacking corpus luteum with a progestin starting on one not one fixed day, but at the beginning



of the post-ovulatory period recognized by the shift of the temperature. In this way, the women have the benefits of the treatment without the deleterious effects described above in case of delayed ovulation (and their mucus does not become sticky).

At half of the '70, the doctor Billings published his Atlas of the Ovulation Method. In this atlas different lines of observation of cycles are introduced without flow of mucus to the vulva (the so-called cycles "buckets") in the hypofertile couples, as well as cycles in which is noticed only an unfavorable thick mucus. In so far, a new clinical sign has been found in the diagnosis of hypofertility: an absence of unloading of mucus to the vulva or a too much brief duration of the flow of the fluid mucus; these are symptoms that indicate a cervical (or rather the cervix) origin of the hypofertility and therefore the necessity of the treatments that promote the flow of the fluid mucus.

The NaProTECHNOLOGY

Dr. T. Hilgers has systematized the medical and surgical management of the couples in the field of the fertility under the name of NaProTECHNOLOGY. Its approach has been successful in the evaluation and in the treatment of the hypofertility. His discoveries concern the diagnosis, the medical treatment and also the surgical treatment of troubles/diseases bound to the hypofertility.

Three examples of scientific discoveries to his credit include: 1)/he has shown that the feeling of wetness without lubrication in the women can be a sign of a small infection of the mucosae; 2) it can be caused by a prolonged discharge of mucus due to the inflammation linked to the cervical ectropion; 3) he has shown that the brown discharges were due to the insufficiency of the corpus luteum or sometimes to the insufficiency of endometrium.

His perseverance and the scientific rigor at the service of the couples have allowed to develop effective protocols to restore the fertility. Besides he has developed operational techniques of great importance for the treatment of the endometriosis, of the polycystic ovary and of other diseases of the gynecological sphere that require a surgical intervention: these are his techniques to reduce the risk of a surgical intervention.

OVER/beyond THE PARTIAL PERSPECTIVES: A RENOVATION OF MEDICINE

We have seen above that the doctors and researchers that have answered to the calling of the blessed Paul VI have participated in the principal scientific discoveries of the modern gynecology and they have indeed accompanied the married people in their vocation of consorts and parents.

They have also received more than they could hope. The sublimity of the intimate union of the couple, announced by Humanae Vitae, revealed them the true vocation of the caregiver in the field of the fertility, of the andrology and of the gynecology. It has contributed to an awakening of the gynecology and the medicine of the fertility. It is a medicine at the service of love and life.

A CHANGE OF PARADIGM

Dr. T. Hilgers defines NaProTECHNOLOGY as one "new medical science of the women, having as first principle the ability to work in cooperation with the menstrual cycle and the fertility of the women." It proposes to



the medical world to change the paradigm, it invites to a change of vision on the sexuality and the medical practice: to pass from the genitocentric sexuality to a sexuality cerebro centric sexuality, to pass from a suppressive approach to the gynecological problems to a cooperative approach with the cycles of the couples and the women. NaProTECHNOLOGY " fully admits that the science must work in harmony with the faith."

This description of the evolution of the medicine in a situation of hypofertility is applied to the whole gynecology.

A RESTAURATION OF FERTILITY

The scientific rigor of NaProTECHNOLOGY has allowed the development of the medicine of the restoration of the fertility. Physicians, surgeons and midwives that use NaProTECHNOLOGY have collaborated with operating sanitary institutions that use other approaches of restoration of the fertility in an international organization: the international institute for the restrictive (IIRRM) reproductive medicine, founded in 2000

A Renovation of the Physician-Patient Relationship

The woman that has learned to know her cycle understands the wonder that happens to her and she becomes able to interact with her physician or midwife. It is not rare to see the consort participate in the interview with the gynecologist furnishing useful details for the medical visit. The husbands are proud of the ability of their wives to know the periods of the cycle and they are interested in the gynecological consultation. The knowledge of the cycle through the observation made in the respect of the rhythms of the fertility necessary transforms the consultation for a gynecological problem, it results helpful during the diagnosis and also for the choice of the optimal moment inside the menstrual cycle for some complementary examinations or the assumption of some treatments. The knowledge of the cycle for instance, allows to locate the moment for achieving a pregnancy or to count with great precision in comparison to the ultrasound of the date of the birth.

Maintenance of the concept the child a fruit of the intimate union between spouses

Suffering is so great for the couples that don't succeed in conceiving, that the medical profession is ready to complete every effort to satisfy their depth desire. The medically assisted procreation comes to provoke the conception of a child with different means separating it from the intimate union of the parents. In the PMA, the gametes are submitted to the biologist which carries out (fertilization in vitro) or the selected sperms are injected into the ovum (Intracytoplasmic sperm injection ICSI) and follows (intrauterine insemination or injection of sperms in a tube of Falloppio) FIVET = FIV plus Embryo transfer.

Insofar, the PMA doesn't maintain the bond between the conjugal intimate union and the transmission of life. Contrarily, the members of the International Institute for Restorative Reproductive Medicines develop a medicine of fertility and a surgical intervention that assure the conception of the child in the intimate union of the spouses. In this medicine all is done for restoring more possible every aspect of the fertility. But at the end it is the intimate union of a married couple on which depends the realization.



In terms of intention, these two approaches have in common the answer to the desire of the parents to have a child, to transmit life. Difference is in the dissociation on the one hand or contrarily in the maintenance of the bond between the intimate union and the transmission of life.

IN CONCLUSION

The appeal addressed to the custodians by the Blessed Paul VI has not remained without echo. Many people decided with joy to put their own life at the service of the spouses and oriented their work for the medicine at the service of love. The knowledge developed by the agencies of diffusion of the natural methods of birth control protects like a dike the conjugal life. This dike is the reception of the intimate union as central mystery of the Creation, with its two meanings: dialogue of love and transmission of life. This dike is also a bridge that connects these two realities whose connection is the secret of the integral ecology. Recent years have shown, through the work done accordingly to the Theology of the Body at the Pontifical Theological Institute John Paul II and in the world, and through the work of biologists, the coherence among the anthropology, the biology and the theology, the anthropological vision that receives the creation as a gift to be monitored, preserved and not exploited is a source of hope to build a civilization of love.