

The Incarnating and the Female *Imago Dei*

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ABSTRACT: This article explores the concept of the *imago Dei* (image of God) as manifested uniquely in female human persons. The study begins with the Biblical affirmation in Genesis that both male and female are created in God's image, emphasizing spiritual equality yet acknowledging the significance of sexual differences. This leads to the proposal that sexual differences might reflect distinct ways in which men and women express the image of God. The work delves into the biological complementarity of sexes, noting modern scientific findings on sexual interdependence and the unique aspects of the female. It further examines how the Incarnation, specifically the role of the Virgin Mary, introduced a new personal dimension to human-divine relationships. This aspect is explored through Gospel narratives, highlighting how women's interactions with Jesus may reveal distinctive aspects of the female *imago Dei*. Additionally, the study considers female personifications in biblical prophecy, examining their contribution to understanding the female aspect of human nature and the *imago Dei*. The interdisciplinary approach of this project, encompassing natural sciences, biblical studies, and theology, aligns with the theology of the body articulated by St. John Paul II and resonates with St. Edith Stein's concept of the "feminine singularity," suggesting a uniquely female charism in the expression of the *imago Dei*.

I. Introduction

What might be distinctive about the *imago Dei* as instantiated in a female human person?¹ The Bible opens with the revelation that the human person, male and female (ἄρσεν καὶ θῆλυ), is created in the image of God (Genesis 1:26–27). Here is spiritual *equality*. As St. Thomas Aquinas asserted, “The *imago Dei* is found as much in man as in woman.”² Though some consider spiritual equality the only salient element here, that reductive move prevents exploring the possible importance of sexual difference in the expression of the *imago Dei* in human nature.³ For it is significant that the only biological *difference* identified in the opening of Genesis is sexuality.⁴ The remarkable first chapters of the Torah reveal the nature of God as the one transcendent creator and couples that revelation with the companion disclosure about the nature of man, namely that humankind, male and female, is created in the image of God.⁵ This co-existence of spiritual equality and sexual difference perhaps suggests a complementarity between the ways that male and female express the image of God, comparable to the biological complementarity of the sexes, with both

¹ This essay is expanded from my presentation on “The Female *Imago Dei* and Christianity” for the session on “Catholicism and Feminism” sponsored by the Society for 21st Century Thomism at the annual meeting of the American Catholic Philosophical Association, New Orleans, 19 November 2022.

² 1266–68: *ST* Ia, q.93, a.4, ad.1: “Ad primum ergo dicendum quod tam in viro quam in muliere invenitur Dei imago quantum ad it in quo principaliter ratio imaginis consistat, scilicet, quantum ad intellectualem naturam”.

³ Torrell 1996: *Saint Thomas Aquinas, vol.2: Spiritual Master*, 87n18: “Today, we know that the statement in Genesis 1:27b ‘male and female he created them,’ has nothing to do with the image of God’ properly speaking. It only evokes the fact of human sexual reproduction.” See, *ibid*, the useful bibliography pointing to such works, e.g., 1991: *Image of God and Gender Models in Judaean-Christian Tradition*, ed. Børresen; and 1989: *Humain à l’image de Dieu: Théologie et les sciences humaines face au problème de l’anthropologie*, ed. Pierre Bühler.

⁴ As noted by Vivian Boland, O.P., in his Ash Wednesday sermon at Blackfriars, Oxford, 2010.

⁵ 2015: “Women and the Genesis Revelation”, Ukrainian Catholic University, Center for Women’s Studies: <https://lektorijy.uu.edu.ua/women-and-the-genesis-revelation/>.

together being necessary for fruitfulness theologically / spiritually just as both are needed for fruitfulness physically. Modern science now allows detailed analyses of sexual difference and also of sexual interdependence at the molecular level with provocative findings of the importance of the female. That biological complementarity began with Creation.

Then the Incarnation dynamically set before God's people truths about God and human nature that had been inaccessible to human thought. No one had presumed to imagine that God would deign to unite his holiness with human nature, at once to redeem mankind from the fall and also to show, in the flesh, that human nature was created with the capacity for divinization. The human person, made in the image of God, was now shown to be capable of living so in union with God that the individual could become a living image of God, a phrase reserved for the saints. Thus Eastern hymns for both male and female saints assert that in them "the divine likeness [icon] shone forth faithfully." The identical verses are used of men and of women, e.g., of St. Mary of Egypt and St. Anthony of the Kiev Lavra.⁶

With the Incarnation came a new way of relating to God, a new and personal directness. The very moment of incarnating proves focal, both in showing this new relationship and likewise in highlighting specifically female action by the Virgin Mary. Before, only a few righteous individuals such as Abraham and Moses and Isaiah were known to have received communications

⁶ 1995: *Byzantine Book of Prayer*, compiled by the Inter-Diocesan Liturgy Commission of the Ruthenian Metropolitan Province, 273, 562. The only difference is in identifying St. Mary as "Mother Mary" and St. Anthony as "Father Anthony." Mistakenly, and with disregard of the theological significance of the word "icon," Phyllis Zagano implies that being made in the *imago Dei* means everyone is automatically an "icon of Christ" and can be ordained: e.g., 2020: *Women: Icons of Christ*, xiv. She never explains a rationale for moving from *Dei* to *Christi* or for assuming that being created in the image of God automatically bestows sanctity. Clearly when St. Paul wrote of those called by God to follow Christ as conformed "to the image of his son" (τῆς εἰκόνης τοῦ υἱοῦ αὐτοῦ) he was treating the universal vocation to holiness, not the specific vocation to the priesthood (Rom 8:29).

from God or even to have conversed with Him.⁷ But Jesus was seen and heard by everyone around him. Those who could understand and those who blocked their understanding could hear his voice and words. And they could speak with him. In some notable instances, they interacted with Jesus in significantly positive ways. The Gospels report new evidence from actual women's words and actions that is suggestive of what may be distinctively female in the *imago Dei* in humans.

Thus Creation and Incarnation yield evidence for exploring the idea of a female instantiation of the *imago Dei*. Creation—specifically, aspects of created human biological nature susceptible to analysis by reason, especially the natural sciences—sheds light on explicitly female capacities. The Incarnation made each human individual's relationship with God personal, as exemplified by actual women in the Gospels, beginning with the Virgin Mary. This dynamically suggests a distinctively female charism.

Other biblical evidence, namely inspired female personifications conveyed through the prophets, provides a prelude and complement to actual women of the Gospels. Those personifications and other female analogies shed light on human nature and also on what may prove to be a particularly female *imago Dei*. This project as a whole is in accord with the theology of the body, as articulated by St. John Paul the Great, and may prove to be related to what St. Edith Stein called the “feminine singularity.”⁸ It is no surprise that the evidence fit for consideration here is from a range of disciplines—the natural sciences, biblical studies, and theology—for all of reality is grist for the mill of philosophical analysis.

⁷ See “God Speaking to His People,” the appendix to Tkacz 2022: “The Annunciation and the Trinity,” *Analecta* 9: 7–38.

⁸ Stein 1928: “The Significance of Woman's Intrinsic Value in National Life” to the Association of Bavarian Catholic Women Teachers, Ludwigshafen on the Rhine. Printed in *Essays on Women*: 253–65.

2. Evidence from Created Human Nature

“Male and female” (ἄρσεν καὶ θῆλυ) are the terms in Genesis, not “man and woman.” Although the latter would seem to be restricted to adults, the former includes all human persons from the time when they can be distinguished as male and female. That time is the moment the *zygote* comes into existence. Modern science has shown that maleness and femaleness are marked by the sex chromosomes, present in each individual at conception. This suggests that being in the image of God is inherently part of human nature. Some would reject the *zygote* as too minimal in human development to be considered a person or in any way sufficient for the *imago Dei* to be present within it. Yet that rejection underestimates the vast gap between even a mature human being and God, a gap only the Lord could bridge or dismiss. From that perspective, the difference between a *zygote* and an adult is negligible.

The history of the scientific understanding of the sexes discloses a remarkable complexity and significance in female potentials and capacities that has often been underestimated. How these female potentialities may pertain to a putative, distinctively female version or expression of the *imago Dei* is unclear. Setting forth the findings of modern science about them, however, may help show something of the mystery.

Consider the sex chromosomes first and then the gametes. They are essential for each person and universally present in individuals of each sex. In each case the greater sophistication and potential are in the female. That female complexity and importance is evident again in the differing parental contributions to the *zygote*. Significant for the present consideration of male and female potentials is a new hypothesis regarding the mode of Incarnating, for the Virgin’s egg cell proves to have been materially sufficient for the Lord’s *zygote*.

2.I. Sex Chromosomes and Reproductive Capacities

The X chromosome was identified first, and only fifteen years later, the Y.⁹ Studying wasps, Karl Heinrich Henking found in 1890 that some spermatozoa had what seemed to be an extra “X element” which the others lacked, and this element of unknown purpose was eventually shown to be a true chromosome. Studying locust sperm, Clarence Erwin McClung in 1901 found that the distribution was 50% with X and 50% without. He held correctly that X, called then the “accessory chromosome,” was a “proper chromosome,” but he hypothesized that it was the male determinant, and that without it the new biological individual would be female.¹⁰ At that point the X had been studied only in sperm cells. Recognition that X was not the male but rather the female chromosome was possible only through comparative and comprehensive male/female analyses, and these were introduced through the work of a woman. Studying the mealworm, Nettie Maria Stevens in 1905 examined both male and female somatic cells and also male and female gametes. The “female cells had 20 large chromosomes, and male cells had 19 comparably large chromosomes but always in addition a small one. She also found that female eggs had 10 large chromosomes, but male spermatozoa had either 10 large or 9 large and 1 small chromosomes. She realized that the small chromosome was the partner” of what was then called the accessory chromosome.¹¹ The designation Y was given to the smaller sex chromosome to correlate it with X, the name for what we now know to be the female.¹²

⁹ See Balderman and Lichtman 2011: “Identifying the X Chromosome”, a section of their essay, “A History of the Discovery of Random X Chromosome Inactivation in the Human Female and Its Significance”, *Rambam Maimonides Medical Journal* 2.3 (July) e0058.

¹⁰ Schwartz 2009: *In Pursuit of the Gene: From Darwin to DNA*, 155–58.

¹¹ Balderman and Lichtman 2011: “Identifying the X Chromosome”. Commas added.

¹² In 1909 Wilson named the smaller chromosome Y: Keierleber 2019, “How Chromosomes X and Y got their names: A quirk of nomenclature originates in the study of insect cells”, *The Scientist*.

Note that the female chromosome is much larger than the male. As a result, the X was discovered and its analysis begun before the Y was even noticed.¹³ In fact, the “Y is one of the smallest chromosomes in the human genome.”¹⁴ The comparison of the sex chromosomes is arresting: “The Y chromosome is one-third the size of the X chromosome and contains about 55 genes,” whereas the X chromosome has about 900 genes.¹⁵ In terms of range and sophistication of biological capacities and potencies, size matters.¹⁶

The Y chromosome is essential for maleness, but that is its unique role.¹⁷ The X has twofold vitality: doubled (XX) it is essential for femaleness; single, in the male XY, it is essential for life itself.¹⁸

¹³ Edmund Beecher Wilson (1856–1939) believed the smaller chromosome was unapparent to his predecessors because of its size: Balderman and Lichtman 2011: “Identifying the X Chromosome”.

¹⁴ The Y, at ~ 60 Mb, “represents around 2%–3% of a haploid genome”: Quintana-Murci and Fellous 2001: “The human Y chromosome: the biological role of a ‘functional wasteland’”, *Journal of Biomedicine and Biotechnology*, 1.1: 18–24, opening sentence on “Structure of the Y Chromosome”.

¹⁵ 22 July 2021. From the National Human Genome Research Institute. For the critical SRY gene, see below, note 18.

¹⁶ “Functional wasteland”, “Nonrecombining desert”, and “Gene-poor chromosome” are a few of the descriptions of the Y chromosome in the 1990s. “In comparison to the other chromosomes, the Y is poor in genes,” with “more than 50% of its sequence composed of repeated elements. Moreover, the Y genes are in continuous decay probably due to the lack of recombination of this chromosome”: Quintana-Murci and Fellous 2001: “Y chromosome”, abstract.

¹⁷ “Mammalian embryos with a Y chromosome develop testes, while those without it develop ovaries”: Polani 1981: “Experiments on chiasmata and nondisjunction in mice”, *Human Genetics, Supplement 2*: 145–46. “What is responsible for the male phenotype is the testis-determining SRY gene”: Sinclair, Berta, Palmer, et al. 1990: “A gene from the human sex-determining region encodes a protein with homology to a conserved DNA-binding motif,” *Nature* 346: 240–44. Thus the SRY gene “remains the most distinguishing characteristic of this chromosome”: abstract of Quintana-Murci and Fellous, “Y chromosome”.

¹⁸ See below, “The X Chromosome: Essential for Every Human Life”.

2.2. Sophisticated Female Reproductive Capacities

The reason why the X has eighteen times as many genes as the Y is that the female's contingent powers in reproduction require such detail and sophistication.

This is readily seen. Sexuality itself is common to every human individual: each has certain sexual organs and hormones and the capacity to activate them at adolescence in order to mature the organs and monitor and regulate the hormonal activity needed to keep them healthy and functional. Thus each sex has a primary sex organ, a pair of gonads, and a pair of breasts (vestigial in males). Only the female, however, has in addition everything needed to ovulate, implant, gestate, sustain, give birth, and lactate. While the ovaries have their counterparts in the testicles, and the vagina has its complement in the penis, in contrast the fallopian tubes (oviducts), uterus, and cervix are uniquely female and without male equivalent. Whereas males produce gametes only beginning in adolescence, females while in utero produce millions of oocytes which remain in the ovaries and are sustained there, suspended in metaphase II.¹⁹ Whereas mature males produce gametes 24/7,²⁰ females have a more complex experience and set of capacities. Beginning in adolescence a meticulous ripening (by the completion of Meiosis I) of only one primary oocyte a month occurs in an ovary, causing the egg cell to become a secondary oocyte. At this point, the egg cell is "suspended in metaphase" in Meiosis II and this gamete's haploid set of 23 chromosomes have been duplicated but not replicated.²¹ The secondary oocyte

¹⁹ Tkacz 2016: "І Слово Стало Тілом: Вплочення Христа з перспективи ембріології і генетики" ["And the Word Became Flesh": The Incarnation of Christ from the Perspective of Embryology and Genetics], *Analecta* 3 (Ukrainian Catholic University, 2016) 242–64 at 254. In the present essay I will quote my original English which was translated into Ukrainian for publication.

²⁰ Alberts, Johnson, Lewis, et al. 2002: *Molecular Biology of the Cell*, 4th ed. chapter on sperm: <https://www.ncbi.nlm.nih.gov/books/NBK26914/>

²¹ Smith Murray and Stone McKinney 2014: *Foundations of Maternal-Newborn and Women's Health Nursing*, 75. They note, "Each of the 23 chromosomes divides without replication of the deoxyribonucleic acid (DNA)." See also Tkacz 2016: "І Слово Стало Тілом" ["And the Word Became Flesh"], 253n33.

doubles in size to become the largest human cell, even visible to the human eye, about the size of a grain of salt.²² This is a “mature, developmentally competent oocyte.”²³

Concurrent with the ripening of that one oocyte are numerous biological preparations for the possibility of conception: the fringe-like fimbriae at the end of the fallopian tubes, near the ovaries, engorge, causing the fimbriae to straighten with systole and then to relax with diastole, in turn causing currents within the peritoneal fluid that help waft the egg cell, once it emerges from the ovary, toward and into the fallopian tube, the locus of the encounter of egg cell and sperm.²⁴ Concurrently, the walls of the uterus are becoming nutrient-enriched and fuller, so that if conception occurs, the new life can be received and nourished; simultaneously the cervix is producing a particular kind of clear, elastic mucus, like egg-whites, which facilitate the travel of sperm into the cervix and toward the egg cell.²⁵ The cervix is also dilating to increase the likelihood that sperm can enter the uterus.²⁶ These are some of the coordinated biological processes unique to females.

Concomitant in healthy women is an experience that may be called nature’s *douceur*, a sense that one is agile, blithe and graceful, that one moves readily, is deft in all movements. This is not illusory, but a true perception of an interlude

²² See the chart of “Mean Oocyte Diameter (µM)” at the “Embryology education and research” website of Dr. Mark Hill, University of New South Wales.

²³ Robker, Hennebold, and Russell 2018: “Coordination of Ovulation and Oocyte Maturation: A Good Egg at the Right Time”, *Endocrinology* 159.9: 3209–18, see abstract.

²⁴ On the fimbriae, see DeLancey 2008: “Surgical anatomy of the female pelvis”, pp. 82–112 in Rock, Jones, and Te Linde, editors, *Te Linde’s operative gynecology*, 10.

²⁵ Ordinarily the mucus has different characteristics, tacky, thick, even constituting a cervical “plug” to prevent sperm from entering when no fresh egg cell has been ovulated.

²⁶ For the cervix as an elegant “biological valve,” because it “at certain times during the reproductive cycle allows entry of sperm into the uterus and at other times bars their admission”, see Hilgers 1992: *The Scientific Foundations of the Ovulation Method*, 7, and idem, 1991: *The Medical Applications of Natural Family Planning: A Contemporary Approach to Women’s Health Care; A Physician’s Guide to NaPro Technology (NPT)*, 60.

of light-hearted ease. While not universal, the phenomenon is common. All the physical changes preparatory to ovulation accord with nature's focus on procreation, making available the best possible egg cell and inclining the woman to physical readiness for coitus. This *douceur*, however, seems to be somewhat different, when one considers that virgins as well as wives can experience these times of physical grace. It perhaps suggests that a woman's fertility is in this way a natural cause for happiness.

If conception occurs, it initiates, on the instant, the new relationship of the mother and the son or daughter. From the very start the relation of the two individuals is biologically active, although what occurs is unseen and, initially, without the awareness of the woman. On the microscopic level, already the mother tends and nourishes and protects the new life, and the new life receives these gifts and then, within a matter of weeks, actively exchanges materials with the mother. These are intricate, sophisticated, naturally coordinated developments, and all require capacities specific to a woman. Because this may pertain to what is specific to a female form of the *imago Dei* and certainly does pertain to the first months of the Incarnation, detailing the development is useful.

Conception itself stimulates the additional panoply of biological experience of pregnancy. The new life emits a hormone that prompts the mother's body to maintain the enriched lining of the uterus, for instance; otherwise it would slough off, and when the new individual reached the uterus there would be no stable place for it to implant. Before ovulation, the egg cell that would become the zygote had already been endowed with nutrients sufficient so that the zygote could at once begin to grow. More nourishment is needed, however, and the mother's body supplies it immediately, through secretions in the fallopian tube, while the cilia, the tiny hair-like projections which line the tubes, sweep the zygote toward the uterus.²⁷ Peristalsis of the tube itself also helps move the new

²⁷ Djahanbakhch, Ezzati, and Saridogan 2010: "Physiology and pathophysiology of tubal transport: ciliary beat and muscular contractility, relevance to tubal infertility, recent research, and future directions", *The fallopian tube in infertility and IVF practice*, 18-29.

life toward the womb. Throughout this, the conceptus absorbs the nutrients from the oviduct. That tube also amplifies signals from the embryo to the mother, insuring that the new life will be recognized as such, and not as a tumor.²⁸ Manifestly, the fallopian tube is “not merely a passive conduit.”²⁹ Rather, it provides “a physiologically optimized environment for fertilization and early embryonic development.”³⁰ During the journey along the 9–11 cm of the oviduct, cell division advances the single-celled zygote to the multi-celled blastocyst,³¹ a critical growth enabling implantation.³²

The active biological relationship of mother and new life continues within the womb. Implantation itself—also called nidation, literally “nesting”—is “a highly organized process that involves an interaction between a receptive uterus and a competent blastocyst.”³³ Their “complex dialogue” enables the embryo to attach to the endometrial surface of the uterus and connect with the epithelium

²⁸ Ezzati, Djahanbakhch, Arian, and Carr 2014: “Tubal Transport of Gametes and Embryos: A Review of Physiology and Pathophysiology”, *Journal of Assisted Reproductive Genetics* 31.10: 1337–47.

²⁹ See Lyons, Saridogan, Djahanbakhch 2006: “The reproductive significance of human Fallopian tube cilia”, *Human Reproduction Update* 12.4: 363–72.

³⁰ Ezzati et al. 2014: “Tubal Transport”, with Fig. 1, diagram of the tube showing fimbriae, ciliated and secretory cells within the human fallopian tube epithelium (with the kind permission from Oxford University Press).

³¹ A normal blastocyst has 50–66 cells on day 5, 80–89 on day 6, and 106–144 on day 7: Hardy, Handyside, Sinston 1989, “The human blastocyst: cell number, death and allocation during late preimplantation development in vitro”, *Development* 197.3: 597–604, see abstract. The blastocyst is 1/100 of an inch at implantation.

³² Quite possibly Mary was journeying to see her cousin Elizabeth during the 6–9 days that Our Lord was journeying through her fallopian tube: Tkacz 2002: “Reproductive Science and the Incarnation”, *Fellowship of Catholic Scholars Quarterly* 25.2: 11–25 at 19–20; on the length of time in the oviduct, see Hilgers 1995: *The Ovulation Method of Natural Family Planning with an Introduction to NaPro Technology, the Contemporary Approach to Women’s Health Care: An Introductory Booklet for the New User*, 12. On the journey of the egg cell and then zygote from follicle into uterus, Tkacz 2002: “Reproductive Science and the Incarnation”, 19.

³³ Kim and Kim 2017: “A Review of Mechanisms of Implantation”, *Development & Reproduction* 21.4: 351–59, see abstract.

and then with the maternal circulatory system to form the placenta.³⁴ This requires hormonal preparation of the uterus, innovating changes in structures and active capacities, in order to receive the new life.³⁵ Moreover, this portion of the woman's body, also, like the oviduct, must recognize that the new entity is not a tumor. "During early pregnancy, fetal trophoblast cells invade the uterus and penetrate the basement membrane, a property that is characteristic of malignant cells." Unlike tumor invasion, however, implantation is localized to the placenta, and the mother's "balance of activating and inhibiting growth factors, cytokines, and enzymes" cause her body to recognize the new life as welcome.³⁶ Nidation results from the interaction of mother and conceptus.³⁷

The placenta itself is a marvel of biological design. This "critical but temporary organ" develops as the fetus develops and is a major means of maternal tending of the new life.³⁸ Particular cells (cytotrophoblasts and syncytiotrophoblasts) line the placental villi (minute hairlike projections) and

³⁴ "Implantation consists of three stages: (a) the blastocyst contacts the implantation site of the endometrium (apposition); (b) trophoblast cells of the blastocyst attach to the receptive endometrial epithelium (adhesion); and (c) invasive trophoblast cells cross the endometrial epithelial basement membrane and invade the endometrial stroma (invasion)": Kim and Kim 2017: "Implantation", citing Bischof and Campana 1997: "Trophoblast differentiation and invasion: its significance for human embryo implantation", *Early Pregnancy* 3: 81–95. "Complex dialogue" is in Kim and Kim's conclusion.

³⁵ Psychoyos 1986: "Uterine receptivity for nidation", *Annals of the New York Academy of Science* 476: 36–42.

³⁶ Kim and Kim, 2017: "Implantation", 259.

³⁷ It is a "cooperative physical and physiological interaction" between the blastocyst and maternal uterus: Cha, Dang, Yuan, and Dey, 2018: "Aspects of Rodent Implantation", in *Encyclopedia of Reproduction*: 291–98. On "communications between the nascent vascular system of the conceptus and mother" see also Cha, Sun, Dey, 2012: "Mechanisms for Implantation: Strategies for Successful Pregnancy", *Nature Medicine* 18: 1754–67.

³⁸ According to the National Institute of Child Health and Human Development (NICHD), "The placenta is arguably one of the most important organs in the body. It influences not just the health of a woman and her fetus during pregnancy, but also the lifelong health of both mother and child."

make minute openings in the uterine wall and adapt blood vessels there, creating a supply of maternal blood for the placenta. It brings nutrients and oxygen to the fetus, removes harmful waste, provides immune protection, and produces hormones to support fetal development.³⁹ “Over time, the villi develop increasingly dense branching to accommodate the increased demand of the developing fetus.”⁴⁰ The uterus itself is designed with spiral arteries within the uterine wall, and during pregnancy these special vessels enlarge to optimize the blood flow to the placenta.

The vital connection between the placenta and the fetus is the umbilical cord. Around week 3 it starts to develop, forming fully by week 7.⁴¹ “The umbilical vessels carry the fetal blood back and forth to the placenta, with the umbilical vein carrying oxygenated blood with nutrients from the placenta to the fetus and the umbilical arteries transporting deoxygenated blood with waste products from the fetus to the placenta.”⁴² Indeed, this cord is the only means for nourishing and tending the fetus.⁴³ By the end of the second trimester the umbilical cord has grown to 50–60 centimeters in length, 2 centimeters in diameter, with up to 40 helical turns.⁴⁴ The amnion expands to cover the entire embryo.⁴⁵ This amniotic sac itself “has anti-inflammatory, anti-bacterial, anti-viral and immunological characteristics, as well as anti-angiogenic and pro-

³⁹ See “Fact Sheet: The Human Placenta Project” (PDF).

⁴⁰ For a description with diagrams, see “Human Placenta Project: How Does the Placenta Form?”

⁴¹ The umbilical cord consists of the connecting stalk, vitelline duct, and umbilical vessels surrounding the amniotic membrane. Heil and Bordoni, 17 April 2023: “Embryology, Umbilical Cord”, *StatPearls* (Treasure Island, FL: internet resource), see “Introduction”: (ncbi.nlm.nih.gov). Heil and Bordoni are the source of much of the information and bibliography cited in the present paragraph.

⁴² Heil and Bordoni 2023: “Embryology, Umbilical Cord”.

⁴³ Moshiri, Zaidi, Robinson, et al. 2014: “Comprehensive imaging review of abnormalities of the umbilical cord”, *Radiographics* 34.1: 179–96.

⁴⁴ Heil and Bordoni 2023: “Embryology, Umbilical Cord”.

⁴⁵ Persutte and Hobbins 1995: “Single umbilical artery: a clinical enigma in modern prenatal diagnosis”, *Ultrasound in Obstetrics & Gynecology* 6.3: 216–29.

apoptotic features.”⁴⁶ With the expansion of the amniotic cavity and elongation of the umbilical cord, the fetus has ample space for movement and growth.⁴⁷ Moreover, Wharton’s jelly (a gelatin-like extracellular matrix within the cord) protects the umbilical vessels so the fetus can move and turn without compression of its blood supply.⁴⁸

Equally complex and orchestrated are the further development of the new life, the continuing and adaptive preparations in the woman’s body for birth, birth itself, post-natal changes to restore the woman’s body to its usual state while simultaneously providing milk for the baby. Lactation itself is orchestrated in constitution and amount, from Colostrum, the special milk secreted in the first two–three days after delivery, through mature milk.⁴⁹ The mother through her breast milk provides all the nutrients that an infant needs in the first six

⁴⁶ Mamede, Carvalho, and Abrantes 2012: “Amniotic membrane: from structure and functions to clinical application”, *Cell Tissue Research* 349.2: 447–58, see Abstract.

⁴⁷ Peesay 2017: “Nuchal cord and its implications”, *Maternal Health, Neonatology and Perinatology* 3: 28.

⁴⁸ Cheng, Yang, Li, et al. 2015 “Wharton’s Jelly Transplantation Improves Neurologic Function in a Rat Model of Traumatic Brain Injury”. *Cellular and Molecular Neurobiology* 35.5: 641–9. The description of Wharton’s Jelly is from Heil and Bordoni.

⁴⁹ Colostrum is “rich in white cells and antibodies, especially sIgA [secretory immunoglobulin A], and it contains a larger percentage of protein, minerals and fat-soluble vitamins (A, E and K) than later milk. Vitamin A is important for protection of the eye and for the integrity of epithelial surfaces, and . . . provides important immune protection to an infant when he or she is first exposed to the micro-organisms in the environment, and epidermal growth factor [which] helps to prepare the lining of the gut to receive the nutrients in milk”: Casey et al. 1986: “Nutrient intake by breastfed infants during the first five days after birth”, *American Journal of Diseases of Childhood* 140: 933–936.

months of post-natal life⁵⁰ as well as elements that help to protect the baby against infection.⁵¹

Can this striking, chromosome-based contrast between male and female capacities in reproduction bear on the possibility of a female *imago Dei*? It is significant that God created the human race to be mammalian and viviparous, not oviparous like birds, ovoviviparous like spiny anteaters, or asexually reproductive like bdelloid rotifers.⁵² Those reproductive modes lack the constant, physical relationship of mother to offspring from conception through weaning that characterizes humankind. As a result, the relation of mother to child is active, vital, and intimate from conception. Note that, in the Incarnation, Mary's participation involved every female reproductive and maternal capacity, while no male reproductive capacity had a part.

Moreover, the contrast between mother's and father's roles in conception itself is of additional interest. And, in this, too, the Incarnation is suggestive.

2.3. The Gametes and Parental Contributions to the Zygote

Well known is the precisely equal contribution genetically that is made by a mother and a father: each gives 23 chromosomes. The science of human conception is far more complex and nuanced than this, however. A fuller account of the male and female donations to a new life provides insights into the

⁵⁰ These include fat, carbohydrates, proteins, vitamins, minerals and water: 1989: *Infant feeding: the physiological basis*, Bulletin of the World Health Organization, 67. Suppl.: 1–107; and Lawrence and Lawrence 2005: *Breastfeeding: a guide for the medical profession*.

⁵¹ These include immunoglobulin, principally sIgA, which coats the intestinal mucosa and prevents bacteria from entering the cells; white blood cells which can kill microorganisms; whey proteins (lysozyme and lactoferrin) which can kill bacteria, viruses and fungi; and oligosaccharides which prevent bacteria from attaching to mucosal surfaces: Hanson 2004: *Immunobiology of human milk: how breastfeeding protects babies*.

⁵² A point I developed in “The Plenitude of Creation and the Incarnation”, unpublished paper. Bdelloid rotifers are microscopic freshwater invertebrates; see Birky, Jr. 2 March 2004: “Bdelloid rotifers reconsidered”, *Proceedings of the National Academy of Sciences U.S.A.* 101.9: 2651–52. Being viviparous is a trait of the “more perfected in nature”: Aristotle c.324BC: *Περὶ ζῴων γενέσεως* II, c.1, 732a 2–4 and 27–30.

difference, not just between male and female biologically, but perhaps into a difference between the male and female *imago Dei*.

As just seen, after the creation of the zygote, the maternal relationship with the new life is essential for the flourishing and indeed the very existence of the pre-natal and nursing individual. Now consider the beginning of that person: the creation of the zygote. In humans, as in all mammals and many other species, this requires two gametes, one from a male and the other from a female. The human gametes themselves differ from each other dramatically in composition, role, and even in time of origin.⁵³ Focus now on the zygote, that single cell which comprises the newly created human individual.⁵⁴ Although each parent contributes a set of 23 chromosomes, the mother alone also provides the complete cell that will become the zygote.⁵⁵

“The cell is the created basic unit of all life on earth,” as biochemist Franklin M. Harold observed.⁵⁶ Robert Hooke coined the term “cell” (*cellula*) in 1665, and by the 19th century scientists realized that “the cell represents the simplest level of organization that manifests all the features of the phenomenon of life.”⁵⁷ All cells consist of “a limited number of standard parts – ribosomes, chromosomes, membranes—arranged in endless permutations.”⁵⁸ As the atom is to physical matter, so the cell is to organic life. Each human person has

⁵³ The egg cells develop incipiently in the ovaries of the female embryo. Years later, one egg cell ripens each month in a mature female. In contrast, pre-adolescent males lack gametes until adolescence, when their bodies produce them 24/7, as noted above.

⁵⁴ As Saint Thomas Aquinas explained, God’s unique and comprehensive act of creation included the historical moments of creation of individual persons at their conception. See also Ashley, 2006: “When Does a Human Person Begin To Exist?” (hereafter “Human Person”) in *The Ashley Reader: Redeeming Reason*, 344.

⁵⁵ I am grateful to Daniel P. Toma for calling this to my attention.

⁵⁶ Harold 2001: *The Way of the Cell: Molecules, Organisms and the Order of Life* (Oxford University Press), 30. The cell has been foundational for all life for “well over 3 billion years” (46).

⁵⁷ Harold 2001: *Way of the Cell*, 17. These features are “the flux of matter and energy” [= “incessant chemical activity”], “self-reproduction,” organization, and adaptation: 10–11.

⁵⁸ Harold 2001: *Way of the Cell*, 30.

distinctive DNA, yet the person is not a set of DNA apart from biological life. To quote Harold again, understanding “organized complexity calls for a different mindset, one that puts cells rather than genes in the center.”⁵⁹

Thus it is of notable significance that the mother and she alone gives a fully functional cell to her child. Her complete gamete, her egg cell containing the haploid DNA derived from her own, is what becomes the zygote upon the addition of the male gamete’s haploid DNA. Thus she is the source of the zygote’s potential, not merely to attain ephemeral existence, nor merely to survive, but to flourish and to develop a normal healthy human body. Designed for this, the oocyte “contains all the materials needed to maintain metabolism and development.” This requires “a remarkably complex cytoplasm” which includes “a store of cytoplasmic enzymes, mRNAs, organelles, and metabolic substrates.”⁶⁰ It holds “large stocks of raw materials for growth and development, together with an effective protective wrapping.”⁶¹ This oocyte houses the nucleus, the locus where the haploid set of chromosomes from the mother will combine with the set contributed by the father. Also among the cell’s complement are the corona radiata (follicular cells), zona pellucida (jelly coat), and cortical granules.⁶² In addition, when the zygote has been formed the new individual receives mitochondria entirely from the mother.⁶³

The egg cell when it emerges from the ovary can be the largest cell in the human body. It is “approximately the size of a grain of salt. It measures around

⁵⁹ <https://www.franklinharold.com/>. Of himself he states, “I am a biochemist by formal training, but a physiologist/cell biologist by outlook: it is the living system as a whole that fascinates me, not its molecular parts.”

⁶⁰ Gilbert 2000: *Developmental Biology*.

⁶¹ From Alberts et al. 2002: *Molecular Biology of the Cell*, first paragraph in chapter on sperm, contrasting the complexity of the egg cell to the simplicity of the spermatozoon.

⁶² Sedo, Rawe, and Chemes 2012: “Acrosomal biogenesis in human globozoospermia: immunocytochemical, ultrastructural and proteomic studies”, *Human Reproduction* 27: 1912–21.

⁶³ Mtango, Potireddy, and Latham 2008: “Oocyte quality and maternal control of development,” *International Review of Cell and Molecular Biology* 268: 223–290.

0.1mm in diameter.”⁶⁴ If it were accessible to sight, it would be visible to the naked eye. A small sphere, its design is for stability. In contrast the male gamete (*spermatozoon*, plural *spermatozoa*) is often the smallest cell in the body; “it is usually highly motile and streamlined for speed and efficiency in the task of fertilization.”⁶⁵ It is designed to convey the father’s haploid set of DNA to the oocyte and then to disassemble. A typical human spermatozoon is 55–58 µm long; nearly all of it (45 µm) is the tail or flagellum.⁶⁶ This is microscopic, for a micrometer (µm), formerly called a micron, is one *millionth* of a meter. The male gamete is thus radically shorter than the egg cell and eel-like instead of a sphere. At 0.1 mm in diameter, or 0.001 meter, the secondary oocyte is a whopping 17–18 times greater in diameter than the length of a spermatozoon (55–58 µm, or 0.000,058 mm).

Once the semen, with millions of spermatozoa,⁶⁷ has been ejaculated into the woman’s vagina, each individual sperm’s whiplike tail (flagellum), a “single motile cilium,” propels it.⁶⁸ If successful, it travels toward and through the cervix, the length of the uterus (8 cm)⁶⁹ to the opening of a fallopian tube, and then

⁶⁴ Sedo et al. 2012: “Acrosomal biogenesis in human globozoospermia”.

⁶⁵ From Alberts et al. 2002: *Molecular Biology of the Cell*.

⁶⁶ “A typical human spermatozoon has a distinct structure with an oval-shaped head (3–5 µm length and 2–3 µm width), a midpiece (7–8 µm), and a tail (45 µm).” Thus, between (3+7+45) and (5+8+45) yields a total length of 55–58 µm: Sunanda, Panda, Dash, et al. 2018: “An illustration of human sperm morphology and their functional ability among different groups of subfertile males”, *Andrology*, in the Wiley Online Library.

⁶⁷ Healthy count of sperm per ejaculation are forty million or more, with a range of “15 million to greater than 200 million per milliliter of sperm”: Mayo Clinic, “Low Sperm Count” under “Semen Analysis Results”.

⁶⁸ Vyklicka and Lishko 2020: “Dissecting the signaling pathways involved in the function of sperm flagellum”, *Current Opinion in Cell Biology* 63: 154–161 at 154: “The tail of mammalian sperm cells is represented by a single motile cilium known as the flagellum that generates its movement to propel the cell through the female reproductive tract and deliver paternal genetic material into an egg.”

⁶⁹ National Library of Medicine 2022: “Anatomy, Abdomen and Pelvis: Uterus”, by Ameer, Fagan, Sosa-Stanley, et al. in StatPearls under heading “Muscles”.

nearly the entire length of that tube (9–11 cm) to the chamber at the end, the infundibulum. If a spermatozoon has traversed the particular tube adjacent to the ovary which ovulated, then at last the spermatozoon may encounter the egg cell, the secondary oocyte suspended in metaphase II. If the spermatozoon reaches the oocyte and begins to enter its outer wall, the flagellum is discarded. In the head of the sperm a dissolvent is released to open both its end and the cell wall of the oocyte, with the remnant of the head remaining in the cell wall.⁷⁰ It is only the haploid set of DNA which enters the egg cell. The size of a haploid set of DNA is miniscule, perhaps 1 μm .

In terms of genetic contribution, the sexes are equal, for both male and female parents contribute one haploid set of DNA, each haploid set perhaps one millionth of a meter in size. However, the complete female contribution to the zygote is her sophisticated egg cell containing her haploid set of DNA, and that is one thousand times larger than the male contribution.

Male contribution: Haploid set of DNA = 1 μm = 0.000,001 m

Female contribution: entire female gamete,
including a haploid set of DNA = 0.1 mm = 0.001 m

A visual reference is useful here. The female gamete at ovulation is about the size of a grain of salt. If one were to enlarge the male contribution to the zygote, namely his gamete's haploid set of DNA, so that it were about the size of a grain of salt, and then comparably enlarge the female contribution to the zygote, namely, the complete secondary oocyte, that egg cell would be a meter in diameter.

2.4. The X Chromosome: Essential for Every Human Life

A commonplace of biology is that a male mammal has XY chromosomes and a female mammal has XX. While the fully detailed analysis of sex

⁷⁰ The acrosomal vesicle in the head of the spermatozoon releases hydrolytic enzymes: Alberts et al. 2002: *Molecular Biology of the Cell*.

determination is still in progress, findings in recent decades nuance this account considerably, showing both an unexpected balance and interdependence of male and female influences at the molecular level of every human individual, and also revealing more of the importance of the female X chromosome.

For every human being needs at least one. No X chromosome, no existence. “X chromosomes are necessary for survival and contain important genes related to the brain.”⁷¹ Each human individual needs two sex chromosomes: a woman has an X from her mother and another X from her father; a man can receive a Y only from his father and therefore his X must come from his mother. This presents a balanced set of areas of sexual importance: the X is needed by all, but it may seem to have a recessive quality, because the presence of just one Y causes an individual to be male. To be exact, it is the gene known as SRY (Sex-determining Region of the Y) on the Y chromosome that is decisive for males.

Yet the very notion of the X as recessive is turned on its head when one realizes that the SRY gene on the Y chromosome could be said to *suppress* the development of uterus, etc.⁷² That is, morphologically, the female organs might seem to be “dominant,” present unless suppressed.⁷³ Discovered only in 1990,⁷⁴

⁷¹ “Y chromosomes, on the other hand, are found only in males and are not crucial for survival”: Schmidt 2018: “A Second X Chromosome Could Explain Why Women Live Longer than Men”, *Discover Magazine*.

⁷² A protein produced by the SRY gene on the Y chromosome triggers processes that “cause a fetus to develop male gonads (testes) and prevent the development of female reproductive structures (uterus and fallopian tubes)”: National Institute of Health.

⁷³ That is the view asserted by in *Jurassic Park* by the character Henry Wu, a geneticist who avers, imprecisely, that all vertebrate embryos are inherently female, requiring an extra hormone at the right phase to make them male. Only morphologically, not genetically, do vertebrate embryos appear undifferentiated, possessing organs that can grow into either male or female reproductive systems; in their genomes, the embryos already have the sex chromosomes which determine the sex of the individual. See also 2007: “Biological Issues in Jurassic Park”, Bionity.com.

⁷⁴ Berta, Hawkins, Sinclair, et al. 1990: “Genetic evidence equating SRY and the testis-determining factor”, *Nature* 348 (6300): 448–50. They analyzed small fragments of the Y chromosome that had translocated to the X chromosome in the genomes of XX males and true hermaphrodites.

the SRY gene must be present if the gonads in an individual are to become testes; otherwise the gonads become ovaries.⁷⁵ At the same time, other genes appear to be involved in sex-determination, and the precise role of SRY remains “elusive.”⁷⁶

Nuancing this scientific set of facts is another, namely that every human individual in order to survive and flourish needs a mix of paternal and maternal *imprinting* on its DNA.⁷⁷ Every paternal gamete conveys some paternal imprinting on at least some of its genes, and likewise every maternal gamete conveys some maternal imprinting on at least some of its genes.

As yet it remains unknown whether such parental imprinting is essential on the sex chromosomes themselves. Only in 1997 was the first evidence of

⁷⁵ “The gene SRY . . . , located at the distal region of the short arm of the Y chromosome, is necessary for male sex determination in mammals. SRY initiates the cascade of steps necessary to form a testis from an undifferentiated gonad”: Fechner 1996: “The role of SRY in mammalian sex determination,” *Acta Paediatrica Japan* 38.4: 380–89, see abstract.

⁷⁶ “The sex-determining region Y protein causes a fetus to develop as a male”: Azghandi 2016: “Comparative *In silico* Study of Sex-Determining Region Y (SRY) Protein Sequences Involved in Sex-Determining”, *Reports of Biochemistry & Molecular Biology* 4.2: 76–81 at 76. For “elusive,” see introduction. Azghandi used computer modeling (*in silico*) to study the SRY of 15 species: human, chimpanzee, dog, pig, rat, cattle, buffalo, goat, sheep, horse, zebra, frog, urial (an Asian wild sheep), dolphin and killer whale. Other genes which may help determine sex include SOX9, DMRT1, WNT1, AMH, SF1, DAX1, GATA4, LIM1, Fra1 and aromatase. See also note 14 above.

⁷⁷ Tkacz 2016: “І Слово Стало Тілом” [“And the Word Became Flesh”], 246. “Parental imprinting” is also referred to as “gametic” or “genomic imprinting.” It is “an epigenetic marking of genes that results in monoallelic expression. This parent-of-origin dependent phenomenon is a notable exception to the laws of Mendelian genetics. Imprinted genes are intricately involved in fetal and behavioral development”: Falls, Pulford, Wylie, and Jirtle 1999: “Genomic Imprinting: Implications for Human Diseases”, *American Journal of Pathology* 154.3: 635–47, see abstract. The definition of genetic imprinting, updated 1 July 2023, begins: “Genomic imprinting is the process by which only one copy of a gene in an individual (either from their mother or their father) is expressed, while the other copy is suppressed”: National Human Genome Research Institute. Additional information about imprinted genes can be found on the Genomic Imprinting Website at <http://www.geneimprint.com>.

genomic imprinting specifically on the human X chromosome adduced.⁷⁸ Thus it is unclear whether parental imprinting on the sex chromosomes specifically is usual or necessary for the flourishing of the offspring. Possibly the X a woman receives from her father may convey to her some paternal imprinting, and the X a man receives from his mother may convey to him some maternal imprinting. In any case, each human being needs both paternal and maternal imprinting to flourish. This is an additional nuance to the mutual reliance of the sexes at the most basic biological level.

Significantly, the vital complementarity of the parental gametes is underscored by the impossibility of the creation of a new life without both. Aberrant phenomena called hydatidiform moles occur when an empty female gamete—that is, a defective egg cell with no DNA—erupts from the ovary and is fertilized by one or two sperm. As a result, all the genetic material comes from sperm. The results are “nonviable.”⁷⁹ Even in these incomplete phenomena, an

⁷⁸ Skuse, James, Bishop, et al. 1997: “Evidence from Turner’s syndrome of an imprinted X-linked locus affecting cognitive function”, *Nature* 387: 705–708. See also Ray, Winston, Handyside 1997: “XIST expression from the maternal X chromosome in human male preimplantation embryos at the blastocyst stage”, *Human Molecular Genetics* 6: 1323–27.

⁷⁹ Lurain, 2019: “Hydatidiform moles: Recognition and management”, *Contemporary OB/GYN Journal* 64.3. Paragraph on “Genetics” begins: “Complete hydatidiform moles usually arise when an ovum without maternal chromosomes is fertilized by one sperm which then duplicates its DNA, resulting in a 46, XX androgenic karyotype in which all the chromosomes are paternally derived. About 10% of complete moles are 46, XY or 46, XX arising from fertilization of an ‘empty ovum’ by two sperm.”

X chromosome (from a sperm) is essential for its short-term life of a few weeks.⁸⁰ A hypothetical YY individual could not survive.⁸¹

This labyrinthine admixture of male and female elements in the formation of truly male and female individuals may seem paradoxical. Obviously, the complexity does not compromise the reality of the two sexes, male and female (ἄρσεν καὶ θῆλυ). Rather, and paradoxically, somehow the complexity makes that reality possible. This suggests not a multiplicity of genders, but the true complementarity of male and female in created human nature at the molecular level as well as with regard to adult reproductive capacities. It could be seen as making every human individual a metaphor for the paradox of the God-Man, Jesus Christ. For He embodies the most stupendous union of different modalities.

2.5. Ancient Theory: Vital Heat and Unformed Matter

Science always relies on the observation of real phenomena by the senses, and at first this was necessarily accomplished without the aid of tools such as artificial lenses to magnify the phenomena. The analyses of chromosomes and gametes, even their identification, has only recently become possible. Only in 1944 was Deoxyribonucleic acid (DNA) discovered as the chemical nature of

⁸⁰ “The chromosome constitution of these moles is usually 46,XX (46,YY has never been observed and [is] thus probably non-viable”: see under the heading “Molar pregnancy: a complex genetic game of chess” in Kalogiannidis, Kalinden, Kalinderis, et al. 2018: “Recurrent complete hydatidiform mole: where we are, is there a safe gestational horizon? Opinion and mini-review”, *Journal of Assisted Reproduction and Genetics* 35.6: 967–73.

⁸¹ See previous note for mammals. “Also, YY plants are non-viable”: Bachtrog 2013: “Y chromosome evolution: emerging insights into the processes of Y chromosome degeneration”, *Nature Reviews Genetics* 14.2: 113–24, in section on “The initial stages of sex chromosome evolution in plants.”

genetic material.⁸² In antiquity, for the peoples of the Bible⁸³ and for the Greek philosophers, the naked eye and other senses unamplified, coupled with reason, led to simpler theories. The classical account of human reproduction given by Aristotle in *De generatione animalium* unavoidably lacked awareness of chromosomes, genes, DNA, cells, and the chemical analysis of the then-unguessed-at gametes. The ejecta of seminal fluid, not the individual spermatozoon was known, and the ejecta of menses, not the egg cell, was available for consideration. The basics of human generation were clear: a woman who had not had intercourse could not become pregnant; a pregnant woman ceased to have menses; if a couple had intercourse, the man's semen entered the woman and pregnancy could result. It was reasonable to think that the semen was causal: "The pneuma enclosed in the seed" has heat, and this "heat conveyed through the seed" is "vital," the source of life.⁸⁴ "According to the data available to Aristotle, the matter in question was the menstrual blood of the mother."⁸⁵ The woman's contribution was thus recognized as essential, but lesser: "the menses are seed but not pure seed; for it lacks one thing only, the source of the soul." Her menses was matter, potentially the basis for a new individual, but only the male's seed could cause formation of a foetus.⁸⁶ In a nutshell, the man contributed all of the vital heat in his seed, and the woman contributed all of the

⁸² Harold, *Way of the Cell* 2001: 44. Karl Ernst von Baer discovered the ovum in 1826, Gregor Johann Mendel, O.S.A., conducted his research in the 1850s, Wilhelm Johannsen coined the word "gene" in 1909, and the discovery and beginning of analysis of DNA occurred in the 1950s. See, e.g., Tkacz 2002: "Reproductive Science and the Incarnation", 16.

⁸³ For the Bronze Age understanding of human reproduction, see Tkacz 2002: "Reproductive Science and the Incarnation", 15–16.

⁸⁴ Aristotle c.324BC: *Περὶ ζώων γενέσεως* 736b 34–39.

⁸⁵ Ashley 2006: "Human Person", 352.

⁸⁶ Aristotle c.324BC: *Περὶ ζώων γενέσεως* 737a 18–35. For "reproduction and the assimilation of nutriment" as a function of the nutritive soul, see Aristotle c.330BC: *Περὶ Ψυχῆς* 415a 23, see also 416a 19 on p. 29 in *Aristotle's De anima in Focus*, with a translation of *De Anima*: Book I on pp. 15–74. When Aristotle speaks of the female as a "male deformed," he is addressing embryo morphology, not human character.

matter.⁸⁷ The male parent was “the finite agent,” the necessary “efficient cause that must prepare the matter” provided by the female.⁸⁸ As Thomas Aquinas held, the male parent is the agent of organization, the female prepares matter and nutrition.⁸⁹ This was the ancient philosophical view, in some cases adapted by the medievals.⁹⁰

2.6. Ancient Theory Revisited: Vital heat (DNA) and organized matter (egg cell)

Revisiting this idea that reproduction results from combining “vital heat” and “matter” is instructive. Now that DNA’s role in human reproduction has been proven,⁹¹ it is reasonable to take DNA as the “vital heat” which is

⁸⁷ Ashley 2006: “Human Person”, 354. For the male’s role, according to Aristotle and Aquinas, see, e.g., Ashley 2006: “Human Person”, 352–55.

⁸⁸ Ashley 2006: “Human Person”, 352.

⁸⁹ Thomas Aquinas i.1252–56: *In III Sent.*, d.3, q.2, a.1; Ashley 2006: “Human Person”, 345 n. 22. See also Hewson 1975: *Giles of Rome and the Medieval Theory of Conception: A Study of the De formatione corporis humani in utero*.

⁹⁰ Demaitre and Travill 1980: “Human Embryology and Development in the Works of Albertus Magnus”, in *Albertus Magnus and the Sciences: Commemorative Essays, 1980*: 405–40, esp. at 415 (“vital heat”). On the role of the female parent in ancient embryology as *actively* furnishing the matter of the fetus and fostering its growth and development, see Wessels 1964: *The Mother of God: Her Physical Maternity*, esp. section 2, chapter 3, 124–25; Ashley 2006: “Human Person”, p. 352, n. 33.

⁹¹ Realization of DNA’s role in reproduction followed almost immediately upon James D. Watson and Francis H. Crick’s discovery of the double helix structure of DNA (1951–53), building on the concurrent work of colleagues; for instance, “Maurice Wilkins and Rosalind Franklin had obtained high-resolution X-ray images of DNA fibers that suggested a helical, corkscrew-like shape”: National Library of Medicine, “The Discovery of the Double Helix, 1951–1953,” par. 4. The ground-breaking, single-page essay was 25 April 1953: “Molecular Structure for Nucleic Acids: A Structure for Deoxyribose Nucleic Acid,” *Nature* 171: 737–38, citing Wilkins and Franklin on p. 737. Almost at once Watson and Crick published a follow-up piece on replication 30 May 1953: “Genetical Implications of the Structure of Deoxyribonucleic Acid,” *Nature* 171: 964–67. The model they built in 1953 is on display in the National Science Museum in London, and the digitized photograph of it has been released by the author, Alkivar, into public domain: https://en.m.wikipedia.org/wiki/File:DNA_Model_Crick-Watson.jpg.

instrumental in conception. Male and female contribute equal numbers of chromosomes to the new life. Thus the “vital heat” derives from both father and mother equally, and for this both are essential. Indeed, as just seen, if the “vital heat” comes only from a male and enters an “empty” egg cell devoid of DNA—an occurrence that seems to approximate the ancient idea of matter-only from the female—the resulting hydatidiform mole cannot survive. The vital heat of DNA must come from both a male and a female parent. Indeed, it must come equally from each. As for the matter, analysis of the formation of the zygote and its development through embryo to infant makes clear that the mother alone contributes the essential matter in the first instance in the fully functional cell, that secondary oocyte which her body releases at ovulation. That minute amount of matter is already organized with sophistication and complexity, sufficient to begin human development with the potential to grow into a mature person. In the ensuing nine months, again it is her body alone which contributes nutrition secreted first from the lining of the fallopian tube and then through the nurturing extension of her circulatory system which is the heart of the umbilical cord; the interactive extension of her child’s circulatory system grows alongside the mother’s system in the cord and receives what is needed and eliminates the waste produced thereby.⁹²

In antiquity it was reasonably thought that a man’s sperm contributed all of the formative element, the vital heat. Now it is known that male and female each contributed half. In antiquity it was reasonable to think that a woman’s menses contributed all of the unformed matter which became a fetus; now it is confirmed that the female does indeed contribute all the matter. However, it is now also known in detail that that matter is already preformed as a fully functional cell. Again, as seen above, the greater understanding of biological human nature afforded by modern science shows a greater role for women than

⁹² One vein carries food and oxygen from mother to child and two arteries carry waste from the baby to the mother: Basta and Lipsett 2022: National Library of Medicine, “Anatomy, Abdomen and Pelvis: Umbilical Cord”, in StatPearls.

had been anticipated and emphasizes the necessary complementarity of the sexes.

2.7. Christian Anthropology of Conception

Marriage is the one sacrament which requires one man and one woman. When the couple together participate in the marriage ceremony and will their marriage, they effect the mystery. In contrast, in a given ceremony one person or many may be baptized, confirmed / chrismated, communicated, or anointed. Likewise, one person or several may be ordained or consecrated to religious life. Only the sacrament of marriage is effected by one man, one woman, and God. And that same trio is essential for conception. The man and woman unite in coitus, making possible a conception. Whether that event in fact occurs is beyond their control. If conception occurs, God simultaneously completes it by bringing into existence a new soul. As the *Catechism* affirms, “The doctrine of the faith affirms that the spiritual and immortal soul is created immediately by God” (§382). Benedict Ashley recounts:⁹³

it is an infallibly revealed truth that the human soul is the vital form of the body generated by the parents but that it is itself not produced by them or by any biological process. It is instead created for the body by a direct divine act of creation *ex nihilo*. The spiritual human soul, therefore, does not exist before the human body but God in the act of creating it brings to completion the biological process of human reproduction so that the beginning of human life is simultaneously the origin of both body and soul, that is, of the whole human person.

Ashley further observes, “Human conception is a natural event belonging to the cosmic order set up by a wise Creator; it is not a miraculous intervention, although it is a creative act that exceeds all but divine power.”⁹⁴

⁹³ Ashley 2006: “Human Person”, 344, citing Pope Pius XII, *Humani generis*, n. 36, and *Catechism of the Catholic Church*, 2nd ed., §366.

⁹⁴ Ashley 2006: “Human Person”, 346.

Of all possible human acts, the creation of a new person is the unique event in which one man and one woman cooperate with God in creation itself.⁹⁵ This is creation not in some romantic, abstracted sense, or as a metaphor, but in fact. It is a natural, recurring, unfathomable mystery that human conception by man, woman and God is itself an image of the fecund Trinity, a ripe truth for contemplation of what *imago Dei* means.

Surely it is also a metaphor for the complementarity of the sexes *in relation to God*. From the nuclear family to the communion of saints past, present and yet to be, human life is to be lived in community of both sexes. This is true of married couples and equally of the hermit and the cloistered religious, whose lives began in a family and whose closeness to God is in the company of the Church invisible.

3. The Incarnating

The one conception that forever deepened human reality was the moment when Our Lord and God and Savior became Man. That brief instant of actual incarnating relied by eternal design on divinely created human reproductive capacities and at the same time inaugurated the new, unprecedented relation between God incarnate and each human person, a new relationship dynamically lived in an exemplary way by the Virgin Mary, beginning with her conversation with the angel at the Annunciation. Note that in both the biological and spiritual aspects it is a woman who is focal in this new Christian encounter with God. By divine plan, both Mary's natural capacities and also her holy choosing

⁹⁵ The most blessed way for this to occur is for the man and woman, married, join in coitus knowing that their expression of love may engender a new life, their own child, and knowing that they are ineffably conjoined with the will of God in the possibility of his creating a new human soul. The grievous fact that coitus can occur without such blessing, that it can be accomplished heedlessly, with one or both parties indifferent or antagonistic to one another, does not impair the wholeness of the creation of the new human being. Conversely, no matter how good the intention for a specific instance of *in vitro* fertilization may be, it is abuse of the new life created, for it is unknowable what loss the conceptus experiences by not beginning within the body of his or her mother.

were essential for the Word to become Flesh. Surely this must relate to a possible, specifically female *imago Dei*.

Consider now the mode of incarnating, first from the perspective of human reproductive science and then from the perspective of Mary's voluntary interaction with God.

3.1. The Incarnation: New Hypotheses

The Incarnation is the most radical affirmation possible of the goodness of created human nature, for God himself joined His divine nature everlastingly with human nature, a mystery which began in the instant of the conception of the Son of God. Two new hypotheses draw on the modern natural sciences—especially genetics, human reproduction, and embryology—to demonstrate that both the pre-birth life of the Lord and also the very mode of his incarnating affirm dynamically the goodness of created female reproductive nature, and also surely pertain to a putative female *imago Dei*.

3.2. Resanctification through the Pre-birth Life of the Lord

Whereas some pre-modern theorists including Thomas Aquinas had reasoned, credibly, that the soul cannot enter a body until it is sufficiently developed and concluded that analogously God could not join with human nature until the embryo was sufficiently developed,⁹⁶ now DNA is recognized as providing the organization needed for the body of the human person, and this is so from the forming of the individual person's DNA in the zygote.

The Incarnation's affirmation, even sanctification of the human person has been accomplished equally for male and for female human beings.⁹⁷ Consider

⁹⁶ For scientific and theological analysis of the outmoded theories of delayed hominization of Aristotle, Thomas Aquinas and others, see Ashley 2006: "Human Person", 342–58.

⁹⁷ First set forth in Tkacz 2002: "Reproductive Science and the Incarnation" and amplified in Tkacz 2016: "І Слово Стало Тілом" ["And the Word Became Flesh"]. See also Tkacz 2012: "*Quomodo Deus Homo: Anselm in the New Millennium*," *The Saint Anselm Journal* 8.1. For pertinent studies of the details of the incarnation, from

the human person in three degrees of specificity: generic human nature, the fact of biological sexuality, and the specificity of maleness and femaleness. Jesus by becoming human shares with everyone all that is common to all human beings, including having ears and a circulatory system. An aspect of that common humanity is having a biological sexual nature, with primary and secondary sexual organs and the hormonal orchestration to mature and maintain them. Jesus shares this, too, with everyone. Jesus because he is male also shares the specificity of maleness with every male human, from zygote through the end of life. This raises the puzzle of whether and how female humans could have been equally resanctified in their femaleness by the Incarnation.

Is female resanctification only by analogy, that is, just as blue-eyed persons are resanctified by the Lord's taking on probably brown eyes? Is it in that way that sexually female persons are resanctified by the Lord's taking on sexual maleness? Saint Gregory Nazianzenos taught that what Christ did not assume, He did not heal.⁹⁸ As some feminist academics have asserted, have girls and women been deprived of the fullness of blessing which boys and men received through God becoming Man as a male?⁹⁹ Is the blessing of the female only second class? That would not square with the *imago Dei* being equally within male and female. Happily, two arguments drawing on data from the natural sciences show that "women's resanctification by the Incarnation is not second-class, not only by analogy with men's but rather is perfect."¹⁰⁰

First DNA. As shown above, the X chromosome is present in every human person, with the male being XY and the female XX. Moreover, the X chromosome is essential for human flourishing. These are aspects of divinely

conception through weaning, treating Mary's relationship with the Lord, see, e.g., Seward 1993: *The Redeemer in the Womb: Jesus Living in Mary*; and Frost 2019: *Maternal Body: A Theology of Incarnation from the Christian East*.

⁹⁸ Gregory Nazianzenos c.382AD: Epistle 110 to Cledonius the Priest against Apollinaris (NPNF 7:440).

⁹⁹ Discussed by Horowitz 1979: "The Image of God in Man: Is Woman Included?" *Harvard Theological Review* 72.3-4: 175-206.

¹⁰⁰ Tkacz 2012: "*Quomodo*", [5].

created human biological nature. Thus, from the Edenic creation, God prepared for his Son to assume in his incarnational zygote an X chromosome, derived from his mother. Jesus holds in his body the chromosome which, when doubled, makes a female female. And in every cell of the Lord's body as he developed in his mother's womb, when he was born, as he grew, the female chromosome has been present. In every cell of his hands when he touched and healed, in every cell in his blood shed on the Cross, the X chromosome was present. When he arose in his glorified body, every cell of it held the X chromosome, glorified, and so it will be everlastingly. For the Son of God assumed, on the microscopic level, the definitive female chromosome at his Incarnation. Thus even the female sex chromosome was assumed and sanctified by the Lord's incarnating.

But is that sufficient? Is it satisfying? Literally?

Does this detail by itself "do enough"? In fact, Our Lord and God and Savior Jesus Christ, in His body, had every anatomical male feature which every man has. If you, the reader, are male, then you know that you and your father share with the Lord biological maleness. But your mother and the Lord's mother do not share with Christ their biological sexual nature.¹⁰¹

However, our Lord did more than assume an X chromosome. That elegant, miniature mystery has a dynamic counterpart, lived by a mature woman. The complement to Jesus' incarnation as male is the Theotokos' human motherhood of her incarnate Son.¹⁰² "As intimately as Jesus dwelt within his own male body, imparting to all men the resanctification of their bodies, so with corresponding intimacy did he in his pre-born life dwell within his mother's body, imparting to all women the resanctification of theirs."¹⁰³ Furthermore, it was within this woman's body that the Lord willed that his Incarnation should begin. Only for God incarnate can pre-birth events be considered acts, yet for Jesus this is true

¹⁰¹ Tkacz 2012: "*Quomodo*", [6].

¹⁰² Tkacz 2012: "*Quomodo*", [5]–[13].

¹⁰³ Tkacz 2002: "Reproductive Science and the Incarnation", 20.

and has great significance.¹⁰⁴ For instance, the Cistercian John of Ford (c. 1140-1214) marveled that Christ in utero “bore our infirmities [of prenatal life] the more truly because knowingly and willingly which other infants go through in a kind of sleep of ignorance.”¹⁰⁵ Consider, now, that Jesus’ conception, gestation, birth, and nursing by his mother necessarily meant that his first incarnate acts were to touch an already holy woman and through her to resanctify all that is female. Every organ specific to female reproductive capacity was touched by the pre-born Lord.¹⁰⁶

This resanctification would seem to have begun in the instant of incarnating. The Second Person of the Trinity could have entered Mary’s egg cell at the instant it was emerging from the ovary. A Thomistic argument from fitness supports this idea and suggests that when Mary declared, *Fiat mihi*, the moment of her speech act was the moment of ovulation. The human egg cell only lives a matter of hours after ovulation, and the Lord deserved the best, the freshest possible egg cell to become the Incarnational zygote. In normal human reproduction, the egg cell erupts from an ovary, moves through the peritoneal fluid, enters the upper chamber of the fallopian tube, and encounters a sperm.¹⁰⁷ If the spermatozoon were to go beyond the tube into the peritoneal fluid its

¹⁰⁴ On the First Five Ecumenical Councils’ affirmation of the Lord’s volition for all of his actions, and the participation of the three Persons of the Trinity in willing these acts, see Tkacz 2002: “Reproductive Science and the Incarnation”, 14–15. The Church Fathers were focused on the voluntary nature of the Passion; their insights necessarily pertain also to the Lord’s pre-birth life.

¹⁰⁵ John of Ford i.1170-1185: *Super extremam partem Cantici canticorum, Sermo LXXXIII* 2, 6–7 (CCCM 18:570), quoted in Saward 1993: *Redeemer in the Womb*, 66–67. See also 65.

¹⁰⁶ In the case of the ovaries and fallopian tubes, of which a woman has two each, the presence of the Lord contiguous to or within one resanctified both.

¹⁰⁷ For a plate showing ovulation, see Nilsson (photographer) and Hamberger 2004: *A Child is Born: The drama of life before birth in unprecedented photographs. A practical guide for the expectant mother*, 41. Note that the natural force with which the egg cell emerges (“erupts”) carries it forcefully through the peritoneal fluid so it can arrive at the fallopian tube.

chances of encountering the egg cell would radically reduce. Thus, in ordinary human reproduction, it is fit that the egg cell travel into the fallopian tube before it is fertilized. But that consideration does not pertain in the conception of the Lord. Therefore, God could avail himself of the freshest possible egg cell, namely a cell at the very moment it emerged from the ovary. This supports the hypothesis that ovulation and Incarnation were simultaneous.¹⁰⁸

The Lord, entering the egg cell *at the moment* it was coming forth from the ovary, could then have touched that innermost repository of female sexuality.

To highlight this point, imagine for a moment a quite different reality in which the Second Person of the Trinity could have been incarnate as female. Then the incarnate God would have resanctified all that is female in her own person. Her DNA, being XX, could not have resanctified the other sex's chromosome, the Y, however, so the Y would have lacked direct resanctification. Nothing distinctively male would have been present in the Incarnate body of God on earth or glorified in heaven. Male human beings would have been blessed in their maleness only by analogy. The comprehensive resanctification of Man, ἄρσεν καὶ θῆλυ, would not have occurred; only the female specifically would have been resanctified bodily. This thought experiment emphasizes the brilliance of God in using divinely created human nature, male and female, to effect the Incarnation and thereby accomplish the resanctification of both sexes.

Thus in the Incarnation God affirmed the created spiritual equality of the sexes, both made in the image of God. At the same time God also distinctively affirmed created sexual difference. Clearly different biological modes were needed in order to accomplish the equal resanctification of the sexes, and those different modes were established in the initial Creation. Can these truths take us closer to defining or perceiving what a specifically female *imago Dei* may be? A more focused look at the moment of Incarnating is useful.

¹⁰⁸ Tkacz 2016: “І Слово Стало Тілом” [“And the Word Became Flesh”], 250–51. For the first discussion of this point, see Tkacz 2002: “Reproductive Science”, 19–20.

3.3. The Material Sufficiency of Mary's Oocyte for the Incarnating

The Incarnating was a divine event, unprecedented, never to be repeated. How God became Man is mystery. By definition, it is beyond our comprehension. Yet God gives us the desire to understand as much as we can, the better to marvel at his omnipotence and his love. As the faithful in the Eastern Churches sing on Theophany in the Hirmos to the Mother of God, “you know our holy ambition,” our longing to understand and to praise God for his wonders.¹⁰⁹ In order to glimpse some of the mystery and to marvel at the goodness of God, it is fitting to consider the manner in which the Second Person of the Trinity may have accomplished his union with human nature. For this, faith and reason can identify a few basics. First: *the closer to nature the mode of Incarnating was, the greater its affirmation of Creation*. Second: *the Virgin Mary and the human nature of our Incarnate Lord were and are really human, normal, and healthy*. God made all things and made them good. Created biological human nature partakes of this goodness. The more that the Incarnate Lord's natural, healthy male biological nature was able to bear union with His divine nature, the greater the affirmation bestowed thereby on human biological nature generally and upon male human nature in particular. Jesus' natural, healthy, male human nature was in truth able to bear that union completely. His Incarnation is the greatest possible affirmation of the goodness of the Creation of mankind. And, it is the greatest possible affirmation of the goodness of the created male human person.

Reciprocally, the more that Mary's natural, healthy female biological nature facilitated the Incarnation, the greater the affirmation bestowed thereby on female biological nature. And the facts of cellular biology and human reproductive capacities show that, in fact, Mary's natural gift of an oocyte by

¹⁰⁹ *Byzantine Book of Prayer*, 504.

ovulation could have materially sufficed for Incarnation with no *ex nihilo* creation.¹¹⁰ This requires explanation.

First, note that this is a new idea. Prior to 2015, when this hypothesis was first aired, a variety of theories for the mode of the Incarnation had been advanced. Some sought to explain the Incarnation by entirely natural means, but in so doing they disregarded either A) scientific facts or B) the Lord's virginal conception. The alternative offered was C) to posit *ex nihilo* creation of a paternal set of chromosomes. Specifically, some suggested that Mary and/or Jesus was abnormal, perhaps with Jesus being an "XX male" cloned from his mother.¹¹¹ Besides being repellent in positing that the Lord was physically aberrant, the A set of theories ignore scientific facts such as the absence of human cloning in nature. Sadly, the number of modern theologians who assert B), that Jesus must have had a human father, is legion.¹¹² That view implies that Luke and the Mother of God were deceived or dishonest in recounting Jesus' origin. Only the theory of C allows thinking of Mary and Jesus as normal,

¹¹⁰ First presented in my public lectures on 2015: "The Incarnation and the Resanctification of Women" and "Genetics, Embryology, and the Body of Christ" (respondent: Rev. Paul S. Vevik), in the series "'Born of Woman': Biology and the Incarnation", sponsored by the Faith & Reason Institute of Gonzaga University and the Weyerhaeuser Center for Faith and Learning of Whitworth University, April 8–10. Katherin A. Rogers spoke on "Anselm, Salvation, and the Biological Necessity of Mary" on April 9.

¹¹¹ Chang 2015: "The Virgin Birth: Where Science Meets Scripture", *New Oxford Review* (December) 22–25; Tipler 2007: *The Physics of Christianity* (New York: Doubleday), 154–93. See also Berry 1996: "The Virgin Birth of Christ", *Science & Christian Belief* 8: 101–10.

¹¹² They include Lincoln, who identifies several others: Lincoln 2013: *Born of a Virgin? Reconceiving Jesus in the Bible, Tradition, and Theology*, 9, 15, et passim; Jenkins and Ranke-Heinemann 1991: *Eunuchs for the Kingdom of Heaven*, 346–48; Spong 1992: *Born of a Woman: A Bishop Rethinks the Birth of Jesus*; and Arthur Peacocke 2000: "DNA of Our DNA", in *The Birth of Jesus: Biblical and Theological Reflections*, 59–67. Regarding the early life of Jesus, some people are so focused on His divinity that they want nothing human about His birth, while others are so focused on His humanity they want nothing divine about His conception.

healthy human individuals and the Lord's conception as supernatural. The C solution, however, is not needed. Surprisingly, despite the theorists' reliance on biological details, they get the science wrong. They misunderstand the actual state of an egg cell at ovulation.

Since the discoveries of the egg cell and of DNA, it has been generally assumed that Mary contributed an egg cell that had advanced to the stage of being an ovum.¹¹³ Unfortunately, many theorists who focus on the Lord's conception have failed to recognize that "ovum" is used by scientists in two senses, in the loose sense of "egg cell with haploid DNA" and in the specific case of "ovum proper." The difference is critical here.¹¹⁴

The human egg cell has three states of interest for the present discussion: primary oocyte, secondary oocyte, and ovum proper.¹¹⁵ In preparation for ovulation one primary oocyte ripens within an ovary (by the completion of Meiosis I) and becomes a secondary oocyte. As noted above, when the egg is released from the ovary at ovulation it is "suspended in metaphase" in Meiosis II and has only one set of 23 chromosomes. Specifically, the secondary oocyte has

¹¹³ E.g., Lincoln 2014: "How Babies Were Made in Jesus' Time", *Biblical Archaeology* 40.6, 42–49; and in more detail, Lincoln 2013: *Born of a Virgin? Reconceiving Jesus in the Bible, Tradition, and Theology*. Initially I made that error: Tkacz 2002: "Reproductive Science", 18.

¹¹⁴ The following relies on Tkacz 2016: "І Слово Стало Тілом" ["And the Word Became Flesh"], 254–56.

¹¹⁵ The primary oocyte advances through meiosis, which has four phases (prophase, metaphase, anaphase, and telophase), to become the secondary oocyte. In turn the secondary oocyte passes through the same four phases to become an ovum, but some of the phases occur only if fertilization takes place. Always meiosis is delayed midway: in the ovaries of a fetal female, Meiosis I begins but is suspended until the individual has reached puberty. In the ovary of a fertile female Meiosis II begins but is suspended until the secondary oocyte is fertilized. The term "oocyte," from the Greek literally meaning "egg cell," was coined in 1895. It is the female gametocyte, the male gametocyte being a spermatocyte.

23 chromosomes *that have duplicated themselves, but have not replicated*.¹¹⁶ This means that each of the 23 duplicated copies is still physically attached to its original by a single bond, the centromere.¹¹⁷ At this point both copy and original are called “chromatids” and together the two comprise the “chromosome” (see plate). Significant for the present thesis is the fact that the quantity of molecular material in these *duplicated* chromosomes is twice that of a plain chromosome. That is the state of the egg cell at ovulation.¹¹⁸

In normal human reproduction, the egg cell remains at that state unless and until a spermatozoon enters the cell wall of the egg cell. That encounter stimulates the completion of Metaphase, so that the duplicated chromosomes complete replication and the original set of chromosomes is bundled aside in a yolk sac. The ovum proper results, and it is ephemeral, existing only while the haploid set of chromosomes from the spermatozoon travel from the oocyte’s cell wall to its nucleus and unite with the mother’s haploid set of DNA there to form the new DNA of the new individual, the event that transforms the ovum into the zygote.

Note well: an ovum proper exists only after encounter with a spermatozoon. That is, a virgin cannot have an ovum. The Virgin Mary could not have naturally had an ovum. She would have had the normal result of ovulation, namely an egg cell in which the quantity of genetic matter in the chromosomes had been doubled. Uniquely in the case of the Incarnation, that normal biological phenomenon mattered. Imagine that in the instant when the Virgin Mary was ovulating, the Holy Spirit transformed one of those two identical sets of

¹¹⁶ Smith Murray and Stone McKinney 2014: *Foundations of Women’s Health Nursing*, 75: “Each of the 23 chromosomes divides without replication of the deoxyribonucleic acid (DNA).”

¹¹⁷ A centromere is “a specialized structure on the chromosome, appearing during cell division as the constricted central region where the two chromatids are held together and form an X”: *Random House Dictionary*.

¹¹⁸ Some scientists refer loosely to the egg cell at ovulation as an “ovum” because it has only 23 chromosomes: for scientists focused on fertilization, it is irrelevant that these chromosomes are doubled.

chromatids within Mary's secondary oocyte. That is, one set would remain exactly as they were and they would be her haploid gift of DNA to her child. The other set of chromatids the Holy Spirit could have adapted into a new set including a Y chromosome and the appropriate paternal imprinting. In this way Mary's secondary oocyte could have become the incarnational zygote, with everything that was naturally necessary for the flourishing of Jesus biologically. To put that briefly: perhaps God morphed one of her secondary oocyte's sets of chromosomes into a paternal set. Divine action alone can account for this, while at the same time, the divine action necessary was as minimal as possible. The precision is elegant. At once Mary's body would have recognized the resulting new genome as indicating that a new life was present. Then, as with every other conception that flourishes, the mother's body would have naturally facilitated transfer of the new life to the womb, received its implanting, and fostered its gestation.

In this hypothesis, Mary would be the full source of Jesus' human nature, as the Church has taught from antiquity.¹¹⁹ Her natural maternal gift of a single set of chromosomes would be matched by a divine transformation of the duplicated matter of those chromosomes, so that the matter God used to provide the paternal set of chromosomes for Jesus would have been naturally provided by Mary, who was a descendent of Abraham and of the Primogenitors. Thus she provided the matter naturally; God transformed it. No creation *ex nihilo* of DNA would have been needed. Full human nature would thus have come from Mary.¹²⁰ This hypothesis seems to solve with simplicity the problem of how Christ could have acquired a paternal set of DNA without either *ex nihilo* creation or a human father.

And, pertinent to the present topic, this hypothesis shows the unique necessity of female biology for the Incarnation. The normal process of ovulation would have produced in Mary a secondary oocyte with duplicated chromosomes. Intriguingly, Mary's participation opens up the meaning of a key biblical

¹¹⁹ Council of Ephesus in 431: see the *Catechism* §446.

¹²⁰ 2016: "І Слово Стало Тілом" ["And the Word Became Flesh"], 256.

reference that is explicitly male: uniquely in the Incarnation the “seed of Abraham” is conveyed exclusively by the egg cell of a woman.¹²¹ And, beautifully coordinated with this emphasis on the created female, the Incarnation simultaneously emphasizes the deliberateness of the maleness of Jesus: only a father can give his son a Y chromosome. Just so, only Jesus’ Father could have provided the maleness of the Son’s incarnate body by morphing some of Mary’s genetic material in the egg cell into a Y chromosome.¹²² At once Mary’s contribution of 23 chromosomes in her egg cell would combine with the 23 copies altered by the Holy Spirit to form the double helix of a full human genome.

And here revealed prophetic typology merges with modern scientific analysis to provide a new affirmation of both prophecy and created human nature.¹²³ In the very instant that the Holy Spirit putatively transformed some of the genetic matter in Mary’s oocyte, the DNA of the Son of Man came into existence. Jesus Christ is like us in all things but sin, and the Church has understood that as meaning a natural nine-months gestation, natural life, and real death. From the instant of conception, his experience has been that of every other human being. This has to mean that he, too, has DNA. His DNA was necessarily in the natural form of a genome, namely the double helix. One can consider that structure as a microscopically small ladder, curving in a spiral. “The ‘legs’ of the ladder are formed by the sugar-phosphate portions of the

¹²¹ Tkacz 2002: “Reproductive Science and the Incarnation”, 16–18.

¹²² Tkacz 2002: “Reproductive Science and the Incarnation”, 15–16. Note that when I wrote that essay I did not yet understand that Mary’s egg cell would have been a secondary oocyte, not an ovum.

¹²³ First presented in my public lectures 2015: “The Incarnation and the Resanctification of Women” and “Genetics, Embryology, and the Body of Christ” in the series “‘Born of Woman’: Biology and the Incarnation”; and published in Tkacz 2016: “І Слово Стало Тілом” [“And the Word Became Flesh”], 244–45 with figure and 262–63.

nucleotides, which are bonded covalently. The ‘rungs’ of the ladder are the nitrogenous bases.”¹²⁴

The common description of DNA as resembling a “twisted ladder”¹²⁵ has unique relevance to the Incarnation, based on the words of Jesus, words in which he paraphrased the Torah account of Jacob’s vision. That patriarch, alone in the desert, had dreamed of a ladder with its top in the heaven and its base on the ground, “and the angels of God ascending and descending upon it.”¹²⁶ He had recognized the presence of God in this vision. St. John the Theologian reports three occasions when Jesus compared Himself to Jacob, in ways that cumulatively reveal more of Jesus’ very nature and deeds (John 1:51, 3:13, 6:58).¹²⁷ Consistently he used the verbs and phrases from the vision, “ascending” and “descending.” Pertinent to the point here, Jesus identified Himself to Nicodemus as the one “that descended from heaven” and would “ascend” there.¹²⁸ Jesus’ descent from heaven was the moment of His Incarnating, and His ascension back into heaven was His Ascension forty days after His Resurrection. The way he “descended from heaven” was foreshadowed by Jacob’s vision of a ladder spanning earth and heaven. Ancient Byzantine hymns celebrate the mystery of the Incarnation, prepared for by the immaculate

¹²⁴ Tkacz 2016: “Ι ΣΛΟΒΟ ΣΤΑΛΟ ΤΙΛΟΜ” [“And the Word Became Flesh”], 245 with figure of double helix by Messer Woland. Further chemical details are on 245–46.

¹²⁵ The phrase “twisted ladder” is seen in, e.g., the opening sentence of National Library of Medicine recent account of “The Discovery of the Double Helix, 1951–1953”. The image is basic to scientific discussion of DNA, as in, e.g., Konrad and Bolonick 1996: “Molecular Dynamics Simulation of DNA Stretching Is Consistent with the Tension Observed for Extension and Strand Separation and Predicts a Novel Ladder Structure”, *Journal of the American Chemical Society* 118/45: 10989–994. Watson and Crick did not use “ladder” in their 1953 article.

¹²⁶ Jacob’s ladder, Gen. 28:12: εἰς τὸν οὐρανὸν καὶ οἱ ἄγγελοι τοῦ Θεοῦ ἀνέβαινον καὶ κατέβαινον ἐπ’ αὐτῆς. Although the Hebrew can also be translated “descending upon *him*,” i.e., upon Jacob, because the Hebrew pronoun is ambiguous, the Greek Septuagint is specific and makes the object “it,” i.e., the ladder.

¹²⁷ Tkacz 2016: “Ι ΣΛΟΒΟ ΣΤΑΛΟ ΤΙΛΟΜ” [“And the Word Became Flesh”], 244. Discussed in detail in Tkacz c.2024: *Women as Types of Christ*.

¹²⁸ ἀναβέβηκεν εἰς τὸν οὐρανὸν ... ἐκ τοῦ οὐρανοῦ καταβάς, John 3:13.

conception of the Virgin Mary, in whom “the promises of the prophets are realized” and “the Divine ladder is set up.”¹²⁹

Surely it is no accident that the distinctive biological feature basic to the Incarnational zygote and unique to the Lord’s body is his personal DNA, naturally structured as a tiny ladder. The living microscopic analogy here is that in the instant that Jesus’ distinctive DNA came into existence the Son of God descended on that ladder to unite Divinity with Humanity. For no other human person does the “twisted ladder” structure of DNA carry this particular implication of uniting earth and heaven in the way that it does for the God-Man. And yet for every human person this embodied metaphor makes possible the meditation that each of us carries in our innermost design a reminder of the Incarnation.

Similarly, other aspects of the pre-birth life of Jesus sound unique resonances with the facts and language of normal human conception and growth. As with the ladder-structure of DNA, this meaning is specific to God incarnate, while at the same time every human person can recognize these details as reminders of the Incarnation, reminders that are embodied within themselves. The word “zygote” comes from the Greek ζευγμα for “yoking,” as of a pair of oxen. The biological term is a metaphor for the joining of the maternal and paternal gametes into one new life.¹³⁰ For Christ alone, his zygote was also the joining of two natures, human and divine, into the Incarnate Son of God. And, concurrent with the instant that this mystery began, Mary became uniquely both

¹²⁹ *Byzantine Book of Prayer*, 465.

¹³⁰ “Zygote” entered the English language only in 1891, used as an adjective by Marcus M. Hartog in an article in *Nature* on 17 September, p. 484: “Paragamy or Endokaryogamy: vegetative or gametal nuclei lying in a continuous mass of cytoplasm fuse to form a zygote nucleus” (*OED*, s.v.). The use of “zygote” as a noun in English is first found in F. W. Oliver’s translation of Kerner 1890–91: *The Natural History of Plants* (London: Blackie), II.628: “The cell produced by the fusion of the bodies of two gametes is called the zygote” (*ibid.*).

virgin and mother.¹³¹ She thus joined forever in her person the two states which express the range of human bodily possibility, virgin and mother.

Also resonant is the very word “amnio,” literally “lamb thing,” so, the “lamb sac.” The enveloping caul that protects the young in the womb was first observed in the birth of lambs, for the newborn still have the caul draped about them. For the Lamb (ἀμνός) of God personally, this phrase has particular meaning: The Lamb of God was born, coming forth from the lamb sac.¹³² That meaning is further nuanced by a related term from pagan religion, in which the blood of the sacrificial animal might be caught in a vessel called the “amnio.”¹³³ A further enrichment of the meaning here is that Mary is also called lamb in Byzantine hymns, such as this on the feast of the Conception of Anne (called in the West the Immaculate Conception):¹³⁴

The honorable couple Joachim and Anne
have given birth to a lamb.
She in turn will give birth in a manner beyond all understanding
to the Lamb of God
who is to be sacrificed for all mankind.

Movingly, in the Oikos on Great and Holy Friday Mary is described as ewe-lamb (ἀμνάς), grieving as she sees her “Lamb” led to “slaughter,” language that clearly evokes Isaiah 53:7.¹³⁵

The lamb who gave birth to the Lamb of God, the woman whose reception of the angel’s *Ave* redressed the error of *Eva*, the one female human being who embodies the mystery of being both virgin and Mother—Mary has primary importance in demonstrating the new Christian awareness that everyone lives in personal relationship with the Incarnate God. Her actions during the encounter

¹³¹ Tkacz 2016: “І Слово Стало Тілом” [“And the Word Became Flesh”], 256–57.

¹³² The Lamb of God: John 1:29.

¹³³ Tkacz 2002: “Reproductive Science and the Incarnation”, 21 and nn. 72–75.

¹³⁴ *Byzantine Book of Prayer*, 467.

¹³⁵ Greek hymns also identify Susanna, Jephthah’s daughter and Ruth with the “lamb led to the slaughter”: Tkacz c.2024: *Women as Types of Christ*, passim.

with God's messenger are pivotal in salvation history. They are the essential complement to what was physically possible in her natural gifts to God: an egg cell and her maternity. Therefore, of all the women of the New Testament, Mary is the first to be considered here. The complement to what is hypothesized to have happened physically at the Incarnating was Mary's voluntary conduct immediately preceding that event.

4. The Evidence from The Bible

A complement to the evidence from the scientific analysis of created human nature is the evidence from the Bible, especially regarding focal Gospel women and the preparation for them in the revealed female personifications in the Old Testament.

4.1. The Active Understanding and Will of the Virgin at the Annunciation

The Annunciation is the origin of the new personal relationship with God that is essential for each Christian. That new relationship began with a woman. Mary is moreover the one person who perfectly models that relationship. She is also historically the first of the women of the Gospels whose actions and words are recorded.¹³⁶ That fact emphasizes the newness in how she conducted herself. Often the focus is justly on her maternity. Equally important, but overlooked, are two significant and characteristically Christian actions which Mary accomplished first of all mankind: she was the first to whom God revealed all three Persons of the Trinity; she was also the first to voice assent to God's will.¹³⁷ Awareness of the Trinity and aligning one's will with God's are essential in every Christian's relationship with God. God chose to make these aspects in Mary into an essential prelude to the Incarnation. Thomas Aquinas identified four

¹³⁶ Although Elizabeth is mentioned first (Luke 1:5) and her thoughts during pregnancy are recorded (Luke 1:25), only later, at the Visitation, are her actions and words recorded (Luke 1:40–45).

¹³⁷ E.g., Thomas Aquinas did not mention these aspects of the Annunciation: 1273: *ST* IIIa, q.30.

reasons why the Annunciation was “fitting” (*conueniens*).¹³⁸ To these can be added three more. First, it was necessary for Mary to learn of the three Persons of the Trinity so she could inaugurate Christian response to the Triune God before she became the mother of the Second Person. Second, it was necessary that she be told of God’s plan so that she could express her assent to it. Third, her conduct through all this was essential to show every Christian how to relate best to God.

4.2. Mary and the Trinity¹³⁹

An important clue to the female *imago Dei* is the fact that God chose to make the first disclosure of the three Persons of the Trinity to a woman. Not to a child, but to an adult, a woman. Not to a prophet or king or priest, but to a young virgin. To see that this was accomplished in the Annunciation, one must distinguish between, on the one hand, our ability to look back at certain passages in the Bible and recognize prophetic hints of the Trinity, and, in contrast, to recognize passages which recount God revealing the Persons of the Trinity in a way that was understood by the one being addressed. Mary received such revelation. Moreover, her own action prompted it. Far from being a passive recipient of this revelation Mary herself made it possible through her conversation with the angel. It seems obvious that God had arranged the angelic encounter so as to open the way for Mary’s holy demonstration of personal autonomy. That is, God intended that she take a discreet but active role in learning about the new mystery which characterizes Christianity: God has Three Persons.

¹³⁸ St. Thomas held that it was fitting that the Incarnation be foretold to Mary, that an angel should announce it, that it be in the manner recorded in Luke, and that it was relayed to her in the order and with the details Luke recounted: 1273: *ST* IIIa, q.30, *conueniens* quoted from *Respondeo*.

¹³⁹ First explored in my lecture on 24 September 2021: “The Annunciation and the Trinity,” for the Ukrainian Catholic University in Lviv, Theology Department; and the Aquinas Institute, Oxford, 28 September 2021; now published as: “Annunciation and the Trinity” (see n.7 above).

Gabriel had first told Mary that she would bear “the Son of the most High” (Luke 1:32), i.e., “the Son of God.”¹⁴⁰ In faith and humility and with intelligence, she wanted to understand and to learn more fully what her role would be. Note how Mary’s exemplary conduct is highlighted by contrast to the way that her older, priestly cousin, Zachariah had behaved. For when the angel had told Zachariah that Elizabeth would have his son, the priest had questioned Gabriel out of doubt, wanting proof: “Whereby shall I know this?”¹⁴¹ Mary’s question arose instead from confidence that what the Angel imparted was true and from the desire to understand: she asked, “How shall this be?”¹⁴² Her question led to the revelation of the Trinity, for in response the Angel replied: “The *Holy Spirit* (Πνεῦμα Ἅγιον) shall come upon thee, and the power of the most High shall overshadow thee. And therefore also the Holy which shall be born of thee shall be called the *Son of God*” (Υἱὸς Θεοῦ: Luke 1:35). Thus, Gabriel named the *Holy Spirit* and the *Son of God*, and the fact that God has a Son shows that God is *Father*.¹⁴³ Thus the existence of all three Persons of the Trinity was made known to Mary by angelic revelation.

Clearly God deemed it best for her to know of all three Divine Persons *before* she became the mother of the Second Person. Mary’s role as first to know of the Trinity, however, seems overlooked by the Latin, Greek and Syriac Fathers, by medieval and Byzantine theologians, and by most modern scholars. For

¹⁴⁰ The “most High” (ὑψιστος) was a frequent designation for God. Just as κύριος “Lord” was used in the Old Greek to translate the Tetragrammaton, so ὁ θεὸς ὁ ὑψιστος “God the Most High” was used to render *Elohyim Elyon*: e.g., LXX Psalm 77(78):35; see also LXX Psalm 56:3 and 1 Esdr. 9:46. In the New Testament see, e.g., a demon recognized Jesus as “Most High” (Mark 5:7) and Melchizedek was described as priest of “God Most High”: Hebrews 11:7.

¹⁴¹ κατὰ τί γινώσκειαι τοῦτο; (Luke 1:18).

¹⁴² Πῶς ἔσται τοῦτο, ἐπεὶ ἄνδρα οὐ γινώσκω; (Luke 1:34).

¹⁴³ This pattern is seen also in the Gospel accounts of the Baptism of Christ, which name the Spirit and the Son and imply the Father: Matt. 3:16, Mark 1:10, Luke 3:22, John 1:34. Only after the Resurrection did the Lord name the Father, the Son and the Holy Spirit, when he commissioned the Disciples to baptize (Matt. 28:19–20). Discussed in Tkacz 2022: “Annunciation and the Trinity”, 36–37.

instance, when Andrew of Jerusalem cited the three Persons of the Trinity in a sticheron for the feast of the Annunciation, he did not suggest that Mary herself was aware of the three Persons: “a virgin womb receives the Son. The Holy Spirit is sent down; the Father on high gives his consent.”¹⁴⁴ While Andrew described what Christians looking back at the event may marvel at, he did not indicate that Mary herself understood that God has Three Persons. Likewise patristic remarks recorded by St. Thomas Aquinas in his *Catena Aurea* on Luke note allusions to the Trinity at the Annunciation, but do not show that Mary could have recognized this as identifying all three Persons.¹⁴⁵ In contrast, I point here to Mary’s hearing Gabriel tell her of “the Holy Spirit” and “the Son of God,” so that she would infer from the word “Son” that God is Father. Hans Urs von Balthasar evidently held that the word “Lord” in Gabriel’s greeting to Mary identified the Father to her.¹⁴⁶ That interpretation, however, seems to retroject that idea into the text, rather than to consider what one might expect Mary to think at the moment.

Thus even in the 2020s much remains to ponder regarding the import of the historical fact that the Trinity was revealed first to Mary. God evidently wanted the woman who was to be the mother of his Son to be the first one to glimpse the mystery of the Trinity. In turn, she exemplifies for us that we are to seek to be in relation to all three Persons of God. In the words of St. John Paul the Great, we are to live in “communion with the Trinity.”¹⁴⁷ For Mary, this was physically and spiritually fruitful; for us it is to be spiritually fruitful.

¹⁴⁴ 1969: *The Festal Menaion*, translated by Mother Mary and Archimandrite Kallistos Ware, 445.

¹⁴⁵ Thomas Aquinas c.1262–64: *Catena Aurea*, vol. III, Part I: *St. Luke*, 34.

¹⁴⁶ von Balthasar 1987: *Mary for Today*, 35–37, etc. See also Leahy, *The Marian Profile: In the Ecclesiology of Hans Urs von Balthasar*, 80–81.

¹⁴⁷ St. Pope John Paul II 1999: Apostolic Exhortation *On the Church in America*, (January 22). He continues: and in “communion among ourselves in a just and fraternal society.” Von Balthasar (1960) also held that Mary’s bridal relation with God is of necessity a relationship with the Trinity: “God, known and received in this intimate fashion, can only

4.3. The Virgin Mary's *Fiat Mihi*

As soon as Mary knew of the Trinity and of God's plan, she voiced her assent. This was necessary: for God made Mary's free act of assent the prerequisite for the Incarnation.¹⁴⁸ As Cardinal John J. O'Connor observed, "it seems reasonable to ask if the Redeemer would have come at all had Mary refused the invitation to become his Mother."¹⁴⁹ A Byzantine Vespers hymn before the feast of the Annunciation treats the archangel Gabriel as considering this marvel as he approached the Virgin:¹⁵⁰

He came down over Nazareth,
Meditating, bewildered by this wondrous event,
and saying:
"How can the One beyond understanding,
the Most High Himself,
Come to be born of a Virgin?
...
How could He condescend to be incarnate of her
At a single word that only she can say...?"

The Incarnation is a reset for Creation, it is the resanctification of humanity, both male and female. After God had caused everything to exist (*fiat*), Adam and Eve had abused their free will and fallen. Mary redressed their error when, at the moment before the Incarnation began, she chose aright, and her assent (*fiat mihi*) was endowed by God with the creative force of proximal cause of the Incarnation.¹⁵¹ Thus began a new reality, a new relationship between the individual human person and God.

be the God in three Persons": *Explorations in Theology I: The Word Made Flesh*, 162. This seems indebted to Adrienne von Speyr, *Magd des Herren*, translated as *Handmaid of the Lord*.

¹⁴⁸ On Mary's assent as necessary for the Incarnation, see also Saward 1993: *Redeemer in the Womb*, 23.

¹⁴⁹ Cardinal John J. O'Connor in his preface to Saward 1993: *Redeemer in the Womb*, ix.

¹⁵⁰ *Byzantine Book of Prayer*, 529.

¹⁵¹ See also Tkacz 2002: "Reproductive Science and the Incarnation", 19–20.

Her assent is theologically important. It is basic belief that God always acts voluntarily and that the Son of God, in concert with the other two Persons of the Trinity, willed his redemptive sacrifice.¹⁵² In parallel, at the Annunciation the importance of the human soul's free will is evident. Notably, the angel did not tell Mary that she had already conceived; he laid God's plan before her, and she chose it freely. Many Christian texts of antiquity, Syriac and Greek, indicate that upon hearing Gabriel's message, Mary conceived.¹⁵³

However, it is consistent with the importance of free will to agree with Saint John Paul the Great and to think instead that when Mary gave her assent, in that instant she conceived.¹⁵⁴ This implies that God timed the Annunciation to coincide with Mary's imminent ovulation, delicately arranging events so that she might voice her voluntary assent at the very moment that the involuntary, unseen event of ovulation occurred. At once the Holy Spirit could then have acted upon Mary's egg cell to form the Incarnational zygote.¹⁵⁵ This shows heavenly respect for created female reproductive nature. This also shows respect for Mary's free will: for God to have acted otherwise would have treated Mary as an object, not a beloved daughter.¹⁵⁶ Von Balthasar makes the same point, and, in the words of Aidan Nichols, O.P., holds that "God must not violate his creature" at the Incarnation.¹⁵⁷

¹⁵² As was professed in 553 at Constantinople: *Catechism* §468.

¹⁵³ In the opening of the Akathistos Hymn to the Theotokos: "Seeing Thee, O Lord, take bodily form at the sound of his voice," the angel proclaims, etc. Ephrem the Syrian writes often that the conception of Jesus occurred when Mary heard through her ears the Annunciation: e.g., *Hymns on the Church*, in c.363AD: Edmund Beck, ed., *Des Heiligen Ephraem des Syrers Hymnen de Ecclesia [Textus]*, 1:122.

¹⁵⁴ See also Saward 1993: *Redeemer in the Womb*, 3 and 5, citing John Paul II.

¹⁵⁵ Saward also uses the word "zygote" for the newly conceived incarnate Lord, 1993: *Redeemer in the Womb*, 7, 161.

¹⁵⁶ Tkacz 2016: "І Слово Стало Тілом" ["And the Word Became Flesh"], 250–51.

¹⁵⁷ Nichols 2000: "Von Balthasar and the Co-redemption".

Significantly, in voicing her assent Mary did something new. No one before her did.¹⁵⁸ Mary herself was not asked to do so. She saw that it was fitting to voice her unity with God's will. Her insight and action arose from her sound use of reason and personal autonomy. As a result, the first person to state assent to a divine communication was a woman. Compare her exchange with Gabriel to divine communications in the OT. Whenever God had told Moses what he was to do, Moses did not state that he would obey, and the last one to speak was God (e.g., Exod. 3:1—4:14). When God commissioned someone to prophesy, that person either obeyed, or like Jonah sought to evade the command, but no one said either "Yay" or "Nay" to God.¹⁵⁹ Always in the Old Testament, God or his angel had the last word. But it was Mary who concluded the conversation with Gabriel.

A critical difference between the Annunciation and all other announcements of divine will was that in every other case when God directly communicated with someone, that person could show faith and obedience by visible action, namely, by doing what God commanded. God told Moses to go to Pharaoh, and Moses went and confronted the ruler of Egypt.¹⁶⁰ God told David to go against the Philistines, and David went and defeated them (1 Sam. 23:4ff.). But when God had Gabriel announce to Mary that she would conceive and bear the Son of God, no observable action could show her choice to make the will of God her own. No voluntary physical deed could show assent, because ovulation is involuntary and invisibly interior and, back then, utterly unknown. Thus, Mary's spoken assent was essential. Her request / command / prayer, "Let

¹⁵⁸ See the appendix, "God Speaking to His People", in Tkacz 2022: "Annunciation and the Trinity."

¹⁵⁹ A rare instance in which David responds, though not at once, to the Lord's command as conveyed through prophecy is 1 Parap. 17:3–5. This lacks, however, the immediacy of Mary's exchange with the angel.

¹⁶⁰ Exod. 3:10, etc. and 5:1, etc.

it be done to me (*fiat mihi*) according to all that you have said,” shows her active will (Luke 1:38).¹⁶¹

In Latin, the subordination of Mary’s will to God’s is evident in her words, *fiat mihi*. The Bible opens with the account of the Lord creating by his word, by declaring *Fiat* and at once what he had called into being, existed (Gen. 1:3,6,14). When Mary voiced her assent, she truly sees that she has the authority to choose that God’s will be done with respect to her (*mibi*). She does not presume to usurp God’s creative power, with an absolute *fiat*. Thus she demonstrates that the individual soul cannot subordinate God to self; rather, by bringing oneself in accord with God, one can participate in God’s creative will. A person may say *fiat* and as a result something happens, but that is not creation. By conforming one’s will to God’s one can say *fiat mihi* and what then may transpire may be more than is humanly possible.

4.4. The Theotokos as Unique Model of Theosis¹⁶²

The Virgin Mary physically conceived and gave birth to God. Likewise, the Church Fathers taught, each Christian is to bear the Lord spiritually. This theological tradition is well attested in both East and West. Cyril of Alexandria, Gregory of Nyssa, Maximus the Confessor, and Pseudo-Dionysius, as well as Ambrose, Augustine, Gregory the Great, and many others, taught that we are to “conceive” the Word in our hearts. Richard of St. Victor and Albert the Great were among those who showed how this typology relates to theosis, as when the latter asserted, “The Church gives birth to Christ daily through the faith in the

¹⁶¹ The Greek noun here is not λόγος, but ῥῆμά: “that which you have said” or “what you have said” (κατὰ τὸ ῥῆμά σου): for discussion of this see Tkacz, “Annunciation and the Trinity.” Although in the Vulgate, both terms are rendered *verbum*, it is useful to distinguish between passages which may reference the λόγος of God and those which refer to messages, an idea.

¹⁶² The following paragraph is indebted to Rahner 1935: “Die Gottesgeburt: Die Lehre der Kirchenvater von der Geburt Christi im Herzen der Glaubigen”, *Zeitschrift für Katholische Theologie*, 59: 333–418; and Tkacz 2011: “The Theotokos and Theosis,” 23–24 in *The Ruthenian Liturgy: An Historical-Theological Explication*,.

hearts of those who hear the word of God.” What the Theotokos¹⁶³ did both physically and spiritually, each Christian—whether male or female—is to imitate spiritually. The word θεογενεσία was used by Pseudo Dionysius the Areopagite to describe what baptism starts within the Christian. On the Lord’s Nativity Augustine preached: “What you marvel at in the flesh of Mary, do in the secret places of your soul.... Thus within your minds fecundity may abound.” Marveling at this mystery, Ephrem the Syrian played on the words *shmayāna* (heavenly) / *shamīnā* (fecund).¹⁶⁴

It has long seemed to me that a major reason for the Annunciation was to make possible Mary’s free and knowing consent. Mary had to learn of the Trinity so that she could experience the Incarnation within the mystery of the Three Persons of God. She also had to know of God’s plan so that she could choose freely to join in willing it and, by her voluntary act of choice, make the Incarnation possible. Her conduct then and thereafter shows how each human soul is to live in union with God’s will. This union, leading to theosis, requires free will. And the human individual who demonstrated this most fully is the Virgin Mary at the Annunciation. Adrienne von Speyr stressed this by opening her study of Mary with a focus on her consent (*Zustimmung*), finding it a “single all-encompassing act [that] accompanies her at every moment of her existence, illuminates every turning point of her life, bestows upon every situation its own particular meaning and in all situations gives Mary herself the grace of renewed understanding.”¹⁶⁵ Her assent and her resulting maternity are the foremost exemplar of theosis.

Surely we are to see these as linked: holy choice and fruitfulness. God arranged the angelic encounter so as to open the way for Mary’s holy demonstration of personal autonomy, which with the Incarnation regains the

¹⁶³ On the Greek title Θεοτόκος, see Tkacz 2011: *Ruthenian Liturgy*, 14–24.

¹⁶⁴ Brock 1990: *Ephrem, Hymns on Paradise*, text of Hymn X on p. 149, note on p. 193: “heavenly: the text can be vocalized either as *shmayāna* ‘heavenly’ or as *shamīnā* ‘fecund’.”

¹⁶⁵ See 1948: *Handmaid of the Lord*, 3; this is noted by Nichols 2000: “Von Balthasar and the Co-redemption”. Nichols also notes that *Lumen Gentium* §62 treats Mary’s consent at the Annunciation: *consensus . . . quem in Annuntiatione fideliter praebuit*.

spiritually fecund potential that had been blunted by the Fall. This seems suggestive of a possible female *imago Dei*.

Together Mary and Jesus are the perfect male and female models for all Christians. Wisely the Eastern Churches incorporate large icons of them in the iconostasis, with the Mother of God holding the infant Jesus on one side of the royal doors and Christ Pantocrator, ruler of all, on the other side. Thus the congregation has constantly before them reminders of Christ's human nature, in the infant, and His divine nature, as Ruler of all. At the same time, the pair of large icons set before the faithful the sinless Woman in Mary and the sinless Man in Our Incarnate Lord. That pair literally embodies resanctified human nature, male and female. This New Eve and New Adam completed their lives as every Christian aspires to do, by going home to Heaven. The Lord's deliberate Ascension has its complement in his gift of the Dormition / Assumption to the Lady. As he had taught in declaring himself to be the Good Shepherd, he had the power to lay down his life and to take it up again (John 10:15, 17-18). He also had the power to take his Mother up into heaven. Every human being can therefore contemplate heaven as the true home of each person, male and female. Already the Lord in his glorified male body and his Mother in her glorified female body dwell in Heaven. The fulfilment of every human person is theosis, being at home with transcendent God. This is what Bishop Auxentios of Etna and Portland has called "man's destiny of deification."¹⁶⁶ Mary was the first woman to go home completely to heaven, all the way to the real Paradise.

She is in every way first among the many women known through the Gospels and Acts who exemplify the new, personal relationship with God made possible, and therefore necessary, by the Incarnation. These women's own words and actions are dynamic evidence of the spiritual equality of the sexes. For with the Incarnation, something new occurred: the incarnate Lord gave face-to-face emphasis to spiritual equality. Christ actively demonstrated the spiritual equality

¹⁶⁶ 2020: "Eulogy Delivered on the Occasion of the First-Year Memorial of Metropolitan Chrysostomos of Etna", *Orthodox Tradition* 37.1: at 15.

of the sexes as no one in all the world had ever done before, and he did so comprehensively, innovatively, and consistently; in his teaching, his parables, his prophecies, and his actual healings and resuscitations, again and again the balance of the sexes is seen.¹⁶⁷ He also adduced the Genesis account of creation, that humanity is created male and female (ἄρσεν καὶ θῆλυ, Matt. 19:4, Mark 10:6). This equality included equal capacity to choose aright and equal responsibility to do so.

Culturally, this insistence on individual moral competence benefitted women more than men: sweeping improvements rapidly arose from this new affirmation of female autonomy.¹⁶⁸ Regarding the articulation of the faith, the ending of female ritual impurity laws, asserting equal responsibilities in marriage, setting aside the Greco-Roman misogyny regarding adultery and rape, and increased female participation in education, catechesis, evangelical preaching, and so much more, women's experiences improved. These improvements were intrinsic to Christianity; they were organically part of it. Yet, important as that history is, it does not indicate what may be distinctive and specific to the *female* image of God, or more fully, the image of God in the female human person.

4.5. Gospel Women as Models for Everyone

Dynamic indications of what that created difference may mean were conveyed through the character and actions of specific women in the Gospels: Mary, who became the Mother of God; Martha of Bethany, the only woman who professed her faith to the Lord face to face; and the Myrrh-bearing women, who went to the tomb on Easter morning and were commissioned to evangelize the Disciples.

¹⁶⁷ Tkacz 2001: "Jesus and the Spiritual Equality of Women", *Fellowship of Catholic Scholars Quarterly* 24: 24–29. See also Ranft 1998: *Women and Spiritual Equality in Christian Tradition*.

¹⁶⁸ As I broached in the lecture on "Female Autonomy and Christianity", for Zags for Life at Gonzaga University, Jepson Auditorium, April 21, 2022. A book on that topic is in progress.

Indisputable is Mary's standing as exemplary woman and as iconic of the female charism; that has been expressed since antiquity. Her deeds and words at the Annunciation and the Visitation, for instance, are "religious acts" with more than personal implications, deeds that are more than "simply individual," for they express what every soul needs to express directly to God and in praise of God.¹⁶⁹ Thus the Church has us imitate Mary and echo her words. Liturgically, what the Church has the faithful re-echo since antiquity is not her conversation with Gabriel, for that was uniquely fit for her to say as the prelude to the moment of Incarnating. Rather, Mary's Magnificat arises repeatedly from Christians throughout the world, because every soul does well to praise God, to recall salvation history, and to do so in the words of the Mother of God. Note that when Mary spoke to the angel, she was, as she will always be The Virgin. At once, when she conceived, she became, as she will forever remain, The Mother of God. Thus it was as Mother of the Lord that she praised God in response to the Holy Spirit's inspiring Elizabeth to recognize her as this (Luke 1:46-56). The praises of the Magnificat are the longest speech of any woman recorded in the Gospels.¹⁷⁰

The words of the righteous of the Bible have from antiquity been voiced by the faithful in liturgical prayers and hymnody. Often, this liturgical re-animation of the words of biblical saints recalls their deeds and demonstrates spiritual equality. Thus are the words of several women (and those of several men) echoed in the liturgy: these include Eve, for whom words are imagined so that she announces the resurrection of Christ to those in the abyss, Judith, Esther, Sarah, Susanna and, from the Gospels, Elizabeth, the Samaritan woman, the Canaanite woman, and the woman with ointment.¹⁷¹ I suggest that for certain women of the Gospels, notably Mary, their words have a particular

¹⁶⁹ Saward 1993: *Redeemer in the Womb*, 36, see also 37–38.

¹⁷⁰ Some would deprive Mary of credit for voicing this: for critique of other views that in fact minimize the legitimacy of the Gospels, see Gilmartin 2017: "Jesus Emerges from the Historical-Critical Fog", *Fellowship of Catholic Scholars Quarterly* 41.3/4: 35–48.

¹⁷¹ Tkacz 2003: "Singing Women's Words as Sacramental Mimesis", *Recherches de Théologie et Philosophie Médiévales* 70: 282–3, 288–318.

Christian importance, and they voice Christian truths which every soul does well to say again. Mary is more than a model of righteousness; she is a model of theosis, and her words provide an expression of the Christian desire to unite with God.

Along with her, other Gospel women and their actions and words are also to be imitated by every Christian, metaphorically.¹⁷² Providentially, women are placed in salvation history at three transitional moments: the Virgin Mary at the beginning of the Incarnation, Martha of Bethany at the fullest demonstration of Jesus' divinity during his ministry, and the Myrrhbearing women when his incarnate life in his glorified body had just begun. It has been shown above how God prepared for the event of the Annunciation so that Mary might learn of the Trinity and of her role in the Incarnation and recognize that it was blessed for her to voice her assent, thus modeling for every Christian the essence of their lives with God. Now consider those other women and how they demonstrate for all humanity the new Christian relationship with God incarnate.

4.6. Martha of Bethany

The second, specifically female instance of new and essential Christian action in the Gospels is Martha of Bethany's professing faith in unique fullness, face to face with the Lord.¹⁷³ From only two persons did the Lord elicit affirmation of belief: Peter after the Bread of Life sermon (John 6:35–60) and Martha of Bethany after the death of her brother (John 11). Quietly, without fanfare, Jesus asked one man and one woman to profess him. Peter's profession comes first: "And we believe and have come to know (πεπιστεύκαμεν καὶ ἐγνώσκαμεν) that thou art the Holy One of God" (John 6:69). Yet, as Greek and Latin Fathers note, Martha's profession is fuller (John 11:27).¹⁷⁴

¹⁷² Tkacz 2003: "Singing Women's Words". Many men and women of both Testaments are helpful models for all souls, as are the fictive men and women of the Lord's parables.

¹⁷³ Tkacz 2001: "Jesus and the Spiritual Equality of Women", 26–27. On her words in liturgy, see Tkacz 2003: "Singing Women's Words," 300–03.

¹⁷⁴ See Eustathios of Antioch and John Cassian, cited below.

The Lord's contrasting responses to Peter and to Martha manifest the iconic complementarity of the sexes. Following Peter's declaration, Jesus announced that Peter is the Rock on which the Lord will build his Church.¹⁷⁵ Peter, foremost of the Twelve Disciples, had just spoken by inspiration on behalf of them all: "We believe." Now he is the Church's head, a role emblematic of the new, all-male Christian priesthood, whose members are priests not by virtue of genetic lineage, as was the levitical priesthood, but by the Lord's call to them individually.¹⁷⁶

Profoundly different is the Lord's exchange with Martha. The prelude is striking. As St. John Paul II observed:

It is to Martha that Jesus reveals the profound mysteries of his mission: "I am the resurrection and the life; he who believes in me, though he dies, yet shall he live" (John 11:25). The paschal mystery is summed up in these words addressed to a woman.¹⁷⁷

After this great revelation, Jesus asked if she believes. Suffering the duress of grief, with her brother newly entombed, she might have simply answered, "Yes." Instead, her profession is the Gospels' most complete statement affirming faith in Jesus. This is her "moment of glory."¹⁷⁸ Martha asserted: "Yes, Lord, I believe (πεπίστευκα) that you are the Christ, the Son of God who has come into the world" (John 11:27). She used the perfect tense, πεπίστευκα, showing that her affirmation is the result of deliberation; it is knowledge. Jesus responded to Martha's faith by performing his most dramatic miracle. Of all the Lord's miraculous signs during his ministry on earth, this is the one furthest from natural possibility. The daughter of Jairus had been dead only a few minutes or

¹⁷⁵ The Lord details fully Peter's commission: Matt. 16:17–19.

¹⁷⁶ On the two priesthoods, see also Tkacz c.2024: "The Divine Election of Priests: Aaron, Korah and Dathan," in *Divine Election in the Latin Bible*, ed. Giambrone and Zilverberg.

¹⁷⁷ St. John Paul II 1995: Letter to Priests for Holy Thursday, March 25.

¹⁷⁸ Weinandy 2022: "Martha, Mary, Lazarus and the Love of Jesus," *The Catholic Thing* (July 29).

hours when Jesus raised her.¹⁷⁹ The son of the widow of Nain had been dead a day or so, long enough for his body to be on the bier and en route to burial.¹⁸⁰ But Lazarus was dead for some days and had been in the tomb for three.¹⁸¹ Jesus' raising of him was therefore the strongest evidence of his divinity. All of his other miracles were prelude to this. Typologically as well, this miracle is the most powerful, for the raising of Lazarus foreshadows both the Lord's own Resurrection, to occur one week later, and also the hope of every Christian to be raised on the Last Day. And the Lord wrought this stupendous wonder in response to a woman who voiced the true faith.

Throughout the Old Testament, the community had been personified as a woman.¹⁸² Now an actual woman, Martha, has professed the true faith and seen the Lord raise her brother from the dead. Accordingly, in the Eastern churches from antiquity onwards Martha's words are voiced by the faithful in hymns and prayers during the eucharistic liturgy throughout the year, as in the prayer Πιστεύω, Κύριε (I believe, Lord).¹⁸³ In East and West priests cited Martha as exemplary. As John Cassian teaches, "Learn from a woman the true faith, learn from her the confession of eternal hope."¹⁸⁴ Eustathios of Antioch preached on the fullness and wording of Martha's profession.¹⁸⁵ A strong opponent of Arianism, Eustathios took part in the Council of Nicaea, and it is plausible that Martha's profession of faith in Christ influenced the formulation of the Nicene Creed, which notably begins, "I believe" (πιστεύω).¹⁸⁶ Martha is emblematic of

¹⁷⁹ Matt. 9:18–19, 23–26; Mark 5:22–24, 35–43; Luke 8:40–42, 49–56.

¹⁸⁰ Luke 7:11–17.

¹⁸¹ John 11:45–54.

¹⁸² Discussed below.

¹⁸³ Tkacz 2003: "Singing Women's Words", 301–02.

¹⁸⁴ Cassianus (possibly authored instead by Theodoret of Cyrus, c.431AD) c.410AD: *De incarnatione Domini* 3.11 (CSEL 17: 276.10–15), see also 6.19 and 7.10.

¹⁸⁵ Eustathios of Antioch, e.g., Cavallera (ed.) 1905: *In Lazarum, Mariam et Martham homilia christological*, esp. section 12, end, through section 13, line 3.

¹⁸⁶ Kazhdan et al. 1991: "Eustathios of Antioch", *Oxford Dictionary of Byzantium*, s.v.

how every soul is to relate to God and also of how the Church herself is to relate to God: in faith, even when suffering, and expecting wonders.

4.7. The Women of Easter

The final New Testament instance shares aspects of what has been seen with the Virgin Mary and Martha of Bethany: women receiving revelation, women's actions essential in salvation history. Several men and women have been deemed *ισαπόστολοι* ("Equal to the Apostles"), because they evangelized an entire people.¹⁸⁷ For instance, St. Photina, the woman at the well, was credited with evangelizing Carthage and therefore deemed *ισαπόστολος*.¹⁸⁸ Historically the first of those Equal to the Apostles were the Holy Women at the Tomb, who acted in courage and faith and received new revelations.¹⁸⁹ On Easter morning Mary Magdalene and the other myrrh-bearing women with quiet courage went to the Lord's tomb, guarded by soldiers, to give him the gendered care of preparing his body for proper entombment.¹⁹⁰ This act led to their encounter with the angel, and thus to their becoming the first to learn of the Resurrection. Although the seismic (*σεισμὸς*) arrival of the angel so terrified the male guards that they became "as dead," the women withstood the presence of the heavenly messenger whose "face was like lightning."¹⁹¹ He commissioned them to tell the Disciples the Lord was risen. Then, in his first risen act, Jesus himself appeared

¹⁸⁷ Tkacz 2003: "Singing Women's Words," 297-98.

¹⁸⁸ Parsing this adjective, one sees that in the prefix meaning "equal" (*ισα*, *-αι*, *-ος*, *-οι*) the inflected endings are subordinate to the initial alpha of *ἀπόστολος*, *-οι*. The ending of that noun is always masculine, because in this context it refers to the Disciples of Christ. That is, those "equal to the Apostle(s)" are equal to the Disciples chosen by Christ.

¹⁸⁹ For the state of the question on research on these and the other women who accompanied Jesus, see Butler, M.S.B.T. 2022: "The Importance of Retrieving the 'Women of Galilee'", in *The Church and Her Scriptures: Essays in Honor of Patrick J. Hartin*: 192-216.

¹⁹⁰ Matt. 28:9-10, Mark 16:9, Luke 24:1-2, John 20:14-17.

¹⁹¹ Matt. 28:2-3. For these points, see Tkacz 2022: "Susanna and the Son of Man in the Gospel of Matthew", 172-73 in *The Church and Her Scriptures*.

to the women. He did so before he appeared to the Eleven.¹⁹² Moreover, the Lord gave Mary Magdalene a further command, to tell his brethren that He would ascend (Ἀναβαίνω: John 20:17).¹⁹³ Therefore St. Jerome and others call these women the apostles of the apostles (*apostolorum illas fuisse apostolas*).¹⁹⁴ Note that God through his angel and then the Son of God in person chose both to inform women first of the Resurrection and also to commission women to tell the Disciples. These women did not thereby become priests, or supplant priests. The women of Easter received revelation and, as commanded, they conveyed it to the Disciples.

¹⁹² The Lord appears to all the women: Matt. 28:1–10. It is a “young man” (angel) who appears to them: Mark 16:1–11. Only to Mary Magdalene does the Lord appear and foretell his ascension: John 20:1–17. For “the Eleven,” see Luke 24:9: τοῖς ἑνδεκά.

¹⁹³ Ἀναβαίνω πρὸς τὸν πατέρα μου. The same verb is used thrice earlier by Christ in this Gospel, always implicitly referring to Jacob’s vision of the angel descending and ascending as a type of his ascension: John 1:51, 3:13, 6:63, with Gen. 28:12. Discussed above at notes 126–28.

¹⁹⁴ In the late fourth century, St. Jerome refers to the three Marys who went to the tomb on Easter morning as apostles: Drawing from the Markan account he is explicit that the Lord, rising, first appeared to women (“Dominum resurgentem primum apparuisse mulieribus”—cf. Mark 16:9: “surgens . . . apparuit primo Mariae Magdaleneae”) and that these women were the apostles of the apostles (*apostolorum illas fuisse apostolas*): *Comm. on Zephaniah* prol. (CCL 76A:671); Kelly 1975: *Jerome: His Life, Writings and Controversies*, 163, 168, 169. Similarly, Hippolytus of Rome treats Mary Magdalene, Martha, and Eve as apostles, and Ambrose speaks of Mary Magdalene’s *officium evangelizandi*; see Nürnberg 1996: “Apostolae Apostolorum: Die Frauen am Grab als erste Zeugnissen der Auferstehung in der Väterexegese”, *Stimuli*: 228–9, 236–7. Thomas Aquinas also treats Mary Magdalene’s “officium apostolicum, immo facta est apostolorum apostola, per hoc quod ei committitur ut resurrectionem dominicam discipulis annuntiet.” (“apostolic office, indeed she was made apostle of the apostles, in that it was committed to her that she should announce the Lord’s Resurrection to the disciples”): c.1270–72: *Super Evangelium sancti Iohannis*, 20.3. See also Maurus c.850: *De vita beatae Mariae Magdaleneae* 27. See also Szövérfy 1963: “*Peccatrix quondam femina*: A Survey of the Mary Magdalene Hymns”, *Traditio* 19: 92–3, 145, and Jansen 1998: “Maria Magdalena: Apostolorum Apostola”, in *Women Preachers and Prophets through Two Millennia of Christianity*, 57–96.

Just as Mary's *Magnificat* is chanted throughout the Catholic and Orthodox world, and just as Martha's words were echoed in the Eastern liturgy, so, too, the words of the women of Easter are chanted.¹⁹⁵ In the West, at Easter these women were focal in Gregorian chant and in the Paschal Trope (923-24), but this was seasonal and it did not involve the congregation in actively echoing the women's words. It is in the East that the women of Easter are presented as emblematic of all the faithful. Their words are sung during the Divine Liturgy, and often. The liturgical texts invite the people to imitate these women. Specifically, Byzantine hymns ascribe words in direct discourse to the myrrh-bearing women (γυναικες μυροφόροι, *Mironosicy ženy*). Throughout the church year these hymns are sung, because resurrectional hymns are chanted every Sunday. They conclude with the words of these holy women, so that the faithful, in chanting the women's words, join with them—imitate them—in proclaiming the resurrection. One characteristic hymn recounts that the women declared: "Risen is the Lord, granting to the world great mercy." In recalling this, the congregation, too, proclaims with the women of Easter, "Risen is the Lord, granting to the world great mercy."¹⁹⁶ This is a practical exercise in the communion of saints.

The very name for the women of Easter—μυροφόροι—shows that they are models for everyone. In Greek—as in Latin, Hebrew, and many other languages—to express the generic one uses the masculine gender. For the women who went to the tomb, Christians invented a word, consisting of the participle from "bearing" or "carrying" and the noun for "myrrh."¹⁹⁷ The new word, μυροφόροι 'myrrh-bearers,' refers only to the holy women who went to the tomb. In short, μυροφόροι is a closed category, and all its members were women. The hymns praise γυναικες μυροφόροι, the "women" (feminine plural

¹⁹⁵ This paragraph derives from Tkacz 2003: "Singing Women's Words", 298–300, with full documentation.

¹⁹⁶ 1949: *Hymns of the Octoechus*, 1: 111–12. My translation.

¹⁹⁷ The verb φέρουσαι is in Luke 24:1. No Gospel specifies myrrh: ἀρώματα are named in Mark 16:1 and Luke 24:1, cf. John 19:40. The gifts of the magi included σμύρναν: Matt. 2:11.

noun) “bearing myrrh” (masculine plural participle). In short, everyone to whom the new word applies was a woman, yet the word itself is masculine. It appears that Christians wanted to emphasize that these women were models for *every* Christian person, male or female, so they made the new word masculine to show that its implications are generic, universal, for everyone. This is a unique instance of the masculine generic where, although all the actual members of the group indicated are female, the spiritual referents for the term are universal.

4.8. Summary Regarding Gospel Women

The Virgin Mary, Martha of Bethany and the Women of Easter are particularly resonant models within Christianity. Most definitely the spiritual equality of the sexes is seen in their demonstrated abilities as women to converse with angels, to articulate the faith, to receive revelation and, when commissioned, to evangelize. It is worth noting that these women represent a microcosm of human possibilities—virgin, wife, mother; homemaker; the women of Easter, who are all equal-to-the-apostles, also vary demographically.

Can it be that also these women acted in ways that express female nature or a particularly female charism? More precisely, do they dynamically attest to a specifically female way of expressing the *imago Dei*? All these women are essential models for every Christian. Every sacrament requires personal assent. This is sometimes explicit and detailed, as in baptism’s prelude of the three-fold renunciation of the Devil and the three-fold declaration of faith; the assent is always part of receiving the sacrament, even when it is simple, as when the communicant responds to the declaration, “Corpus Christi” with “Amen.” Such assent was modeled foundationally by the Virgin Mary. The Creed is a personal affirmation of belief, and such affirmation was modeled by Martha of Bethany, more fully than by any other person face to face with the Lord. Each Christian’s vocation is to share faith in the resurrected Christ. This evangelical action was modeled historically on the life-changing day of the Resurrection by the myrrh-bearing women. In sum, every Christian, male or female, must assent to God’s

will, profess faith in God, and evangelize. All of these defining acts were performed in the first instance iconically by women.

Moreover, revelations to women punctuated Christ's incarnate life on earth. First, Gabriel revealed to Mary the Three Persons of the Trinity, moments before the Incarnation began. Every Christian needs to know Jesus and to meet him in the context of the Trinity. Mary did this first and best of all. Later, one week before the Lord would rise from the dead, Jesus personally revealed to Martha the all-encompassing mystery that he is the Resurrection and the life. Again, it was women who were the first to learn of the Lord's own Resurrection, and moments later again they were the first to see and speak with the risen Lord himself. Just as a woman was the first to learn that the Lord was to descend to us by Incarnating, so a woman was the first to know he would ascend. Jesus in person also revealed a further new mystery to Mary Magdalene: he would ascend. He coupled this revelation with the commission to her to tell this to the Disciples. Those men learned this from a woman. The first priests, called and taught by the Lord himself, learned this from a woman, by God's deliberate design. Angelic revelations to women frame the life of Christ on earth, first at the Annunciation, then at the tomb.

These appear to be more than isolated events in salvation history. The actions and words of these women seem to carry iconic significance, shedding light on the *imago Dei* in the female human person. In the lyrical words of John Saward, "Mary of the Magnificat is Israel in person."¹⁹⁸ The iconic quality of Mary and of other Gospel women did not suddenly occur in a vacuum. Rather, it arose organically from the Jewish context of Old Testament prophecy and imagery.

4.9. Female Biblical Metaphors

Background for seeking to define a putative female instantiation of the image of God must include the exclusively female analogies revealed in the Old Testament. The Gospel events transpired after centuries of revealed

¹⁹⁸ Saward 1993: *Redeemer in the Womb*, 36.

preparation; prophecies, revelations, and types were conveyed to God's people to help them recognize the Messiah when he came. Similarly, what may be Gospel indications of a female instantiation of the *imago Dei* may relate to particular biblical metaphors in which a woman, and only a woman, can personify the soul and can represent the community in relation to God. Along with those frequently attested analogies are the rare but striking instances in which God compares himself to a mother. (A third category is a new Christian exegesis of women as types of Christ introduced in the Gospels; as it expresses spiritual equality, not a distinctively female charism, it is not discussed here.¹⁹⁹)

4.10. Female Personifications of Soul, Community

Specifically, both the individual soul and the community as a whole are personified within the Bible, always as a woman.²⁰⁰ Because these metaphors were relayed by the prophets they are particularly worthy of attention. More importantly, these analogies were also endorsed by fresh expression in the New Testament, sometimes by Jesus himself. These personifications are of adult women, not female infants or small girls.

The Beloved of Canticles is the Bible's most developed female personification of the soul in relation to God. In the eight chapters of the

¹⁹⁹ Highly affirmative of women, that interpretation was introduced in the Gospels themselves and was highly popular in Christian tradition until the Reformation. Then it lost popularity with the reformers, because this exegesis concerns the universal vocation to holiness and the spiritual equality of the sexes. See Tkacz c.2024: *Women as Types of Christ: An Apostolic Tradition in East and West* (in press). For my preliminary studies of Susanna and Jephthah's daughter in the Gospels see 2004: "Women as Types of Christ: Susanna and Jephthah's Daughter", *Gregorianum* 85: 292–96 and 2006: "Ανεβόθησεν φωνή μεγάλη: Susanna and the Synoptic Passion Narratives", *Gregorianum* 87.3: 449–86. On Jephthah's daughter see also Paretsky 1985: "The Beloved", 88–90 in *Jewish Eschatological Expectation and the Transfiguration*. Related is the Old Testament personification of Wisdom as a woman in Proverbs 8–9, Sirach 24, and Wisdom 7, seen as prefiguring Christ. This is evident in the New Testament itself, and in Origen and Athanasius; see Kannengiesser 1999: "Lady Wisdom's Final Call", in *Nova Doctrina Vetusque: Essays on Early Christianity in Honor of Fredric W. Schlatter, S.J.*: 65, 75.

²⁰⁰ This section draws on Tkacz c.2024: *Women as Types of Christ*, at notes 48–50.

Canticle of Canticles the soul is presented as wooed, loving, marrying and adoring, using detailed female imagery and descriptions of love to represent the developing and sustained relationship with God. The Church Fathers commented thoroughly on this womanly image, and such analysis and meditation continues.²⁰¹ The voluminous commentary tradition on this metaphor includes fifteen homilies by Gregory of Nyssa, three commentaries by Gregory the Great, and eighty six homilies by Bernard of Clairvaux.²⁰² Elsewhere in the Bible the adoring love of the “daughter” for the king, “for he is the Lord thy God,” suggests the soul’s love for God (Psalm 44[45]). Metaphors can be multi-valent, and these images of the soul as God’s beloved can also readily be interpreted as the Church, the beloved of Christ.²⁰³

Importantly, the Old Testament prophets conveyed divinely inspired personifications of the community of the faithful as female: bride, wife, mother. Jeremiah, Ezekiel and Isaiah consistently voiced this inspired metaphor. Jerusalem is presented as a woman, so is Zion.²⁰⁴ Even though the nation of Israel is named for the man who was their common ancestor, that nation was personified as female, as God’s betrothed, bride, or wife.²⁰⁵ Conversely, the nation forgetful of God was chastised frequently as a negligent wife or even a harlot, and Ezekiel and Hosea develop the metaphor of the faithless people as harlot at some length.²⁰⁶

In the most positive ways, Jesus continued the metaphor of the community of the faithful as female. After all, he was in truth the Bridegroom, teaching the people how to be his Bride. Notably, he implicitly endorsed the image of himself

²⁰¹ Gietmann 1908: “Canticle of Canticles”, *The Catholic Encyclopedia* 3, s.v. He draws on his allegorical commentary 1890: *In Ecclesiastem et Canticum Cantiorum*.

²⁰² Gregory of Nyssa: PG 41: 755ff.; Gregory the Great: PL 79: 471–547 and 905–16, Bernard of Clairvaux: 180: 441–74; Gietmann 1908: “Canticle of Canticles”.

²⁰³ See, e.g., Reardon 2011: *Christ in the Psalms*, 87–88.

²⁰⁴ Jerusalem as a woman (e.g., Isa. 9:1, 52:1; Jer. 4:14; Lam. 1:1–2), Zion (e.g., Isa. 9:1, 49:14, 52:1–2, 66:8–9; Jer. 4:14, Lam. 1:1–2).

²⁰⁵ Hos. 2:19–20, Jer. 3:14, Ezek. 16:8–14.

²⁰⁶ Negligent wife: Jer. 2:32, 3:20. Harlot: Jer. 3:1, Ezek. 16:15–29; Hos. 3:1–2.

as bridegroom and the church as bride when he inaugurated his teaching ministry by reading Isaiah 61 in the synagogue (Luke 4:18–21). He quoted the opening words:

The Spirit of the Lord is upon me. Wherefore he hath anointed me to preach the gospel to the poor, he hath sent me to heal the contrite of heart, to preach deliverance to the captives, and sight to the blind, to set at liberty them that are bruised, to preach the acceptable year of the Lord, and the day of reward. (Isaiah 61:1-2)

Then he calmly sat and proclaimed to the synagogue, “This day is fulfilled this scripture in your ears.” The rest of chapter 61 would come to mind to some then and to many later, especially after the Gospel had been written. This would disclose the prophetic nuptial image:

I will greatly rejoice in the Lord, and my soul shall be joyful in my God: for he hath clothed me with the garments of salvation: and with the robe of justice he hath covered me, as a bridegroom decked with a crown, and as a bride adorned with her jewels. (Isaiah 61:10).

Jesus’ affirmation of this metaphor is the wellspring of the personification of Ecclesia, a metaphor still upheld as meaningful. As the Church affirmed in 2001, “Insofar as possible in a given vernacular language, the use of the feminine pronoun, rather than the neuter, is to be maintained in referring to the Church.”²⁰⁷

Following Jesus’ example, Sts. Paul and John continued to personify Jerusalem as a woman and the Church as the bride of Christ.²⁰⁸ For St. Paul,

²⁰⁷ Congregation for Divine Worship and the Discipline of the Sacraments, “*Liturgiam Authenticam*: On the use of Vernacular Languages in the Publication of the Books of the Roman Liturgy”, (28 March 2001), par. 31, d.

²⁰⁸ Jerusalem as woman: Rev. 21:9–14; the Church as bride of Christ: John 3:29, Eph. 5:25, Rev. 21:9–14. St. Paul developed the personification of the Church: Schlatter 1995: “The Two Women in the Mosaic of Santa Pudenziana”, *Journal of Early Christian Studies* 3.1: 5.

the Church was virgin, wife, and mother.²⁰⁹ For instance, he discussed the bondswoman Hagar and the free Sarah as metaphors, with Sarah standing in for the “Jerusalem which is above,” i.e., heaven, and that Jerusalem, Paul teaches, is “the mother of us all” (Gal. 4:26). Most powerfully, Paul recognizes the relationship of God with the faithful as vital and essential for the life of the soul. He writes to the Corinthians, “I have espoused you to one husband that I may present you as a chaste virgin to Christ” (2 Cor. 11:4). In a passage both contemplative and spiritually practical, he details the relation of husband and wife to each other as a metaphor for Christ with the Church (Eph. 5:21–33).²¹⁰ Although his initial adjuration is often neglected by critics, that statement grounds all that follows: “Be subject to one another” (v. 21). This is a mutual, reciprocal relationship. St. Paul teaches nothing less than that the marital relationship is to be lived as an analogy to the more basic relationship of the soul to God. “Let the women be subject to their husbands *as to the Lord*” because “the husband is the head of the wife, *as Christ is the head of the Church. He is the saviour of his body*” (23). Reciprocally, the husbands are to “love your wives as Christ also loved the Church *and delivered himself up [παρέδωκεν] for it*” (25). Christ delivered himself up to suffering, crucifixion and death, and then resurrected. To this, metaphorically, is a husband called in the care of his wife. The language of “delivered himself up” may already by the time of Paul have become a phrase used in the eucharistic liturgy to refer to the Passion of Christ.²¹¹ Moreover, the husband’s purpose in relation to his wife is to partake of the Lord’s purpose in sacrificing himself for the Church, namely to enable the wife / Church to be “holy” (27). Men ought to love their wives as they love their own bodies, to nourish and cherish them (28–29). Marriage is itself a great sacrament, and it symbolizes Christ and the Church (32). Let the man love his

²⁰⁹ See, e.g., Schlatter 1995: “Two Women”, 5, 22.

²¹⁰ Discussed by, e.g., Rogers, “Equal before God: Augustine on the Nature and Role of Women”, in *Nova Doctrina Vetusque: Essays on Early Christianity in Honor of Fredric W. Schlatter, S.J.*, 176–77.

²¹¹ Tkacz 2004: “Women as Types of Christ”, 299, on the same liturgical echo in commentaries on Jephthah’s daughter.

wife *as himself* and let the woman revere / fear her man (γυνή ... φοβῆται ἄνδρα, 33). This is a mystical aspect to the sacrament of marriage.

The Bible's consistent use of female metaphors for the relationship of the faithful to God suggests that female human nature is illustrative, in ways not imaged by the male, of how everyone is to relate to God. Marital union, fertility, and maternity are clearly aspects of this. It is striking that in the New Testament actual women who encountered Christ demonstrated the same capacity to represent the Church. In mystery Christian women can vivify the female personifications of the Old Testament and embody the life of the individual soul and also the life of the Church. Spiritually, always it is God who does the begetting. The soul of each person, male or female, is to be receptive in union with God, fertile, and fruitful. The Church herself likewise is to be open and receptive to God, to conceive by God, and to be fruitful by, for, and because of him.

4.11. Maternal Images of God

In this rich imagistic context, in which female imagery dominates in presenting the human individual in relation to God and also the organic worshipping community in relation to God, one unexpected metaphor stands out. Strikingly, revealed human metaphors for God himself include a very few female images. Always these are maternal. Not virginal, not involving images of coitus, but explicitly maternal. Usually and even as a leit motif in Scripture, God is Father: Father to the Son, but also and powerfully Father to the chosen people.

Thus it is startling to encounter a female image for God. Moreover, these motherly metaphors clearly refer to the Passion of Christ. Isaiah 49:15: "Can a woman [γυνή] forget her sucking child, that she should not have compassion on the son of her womb? yea, they may forget, yet will I not forget thee. Behold, I have graven thee upon the palms of my hands" (KJV). Thus, the Lord presents himself as more loving than a nursing mother, and the evidence he offers is prophetic reference to the nail holes in the hands of the Crucified. When later the prophet reiterates maternal imagery—"As one whom his mother comforteth,

so will I comfort you” (Isaiah 66:13)—already the link with the passion has been established. In a contrast that points up Moses as a mere human foil for the transcendent God, Moses had disavowed such a maternal role for himself, complaining that God asked too much of him, as if Moses had conceived “in the womb” the people of Israel, or “given birth” to them (ἐν γαστρὶ, ἔτεκον: Num. 11:11-12). In mystery, he anticipated the diction of Isaiah’s prophecy of the Virgin Birth (7:14). The image Moses repudiated, God fulfilled.

Jesus ratified the image of God’s love as more than maternal: shortly before his Passion he lamented that Jerusalem would not come to shelter beneath his wings, as chicks with a mother hen (Luke 13:34).²¹² Christians extended this motherly symbolism by meditating that Christ on the Cross gave birth to the Church when blood and water came forth from his side, pierced by the soldier’s lance (John 19:34).²¹³ While interpretations of this event from the passion included nuptial reference to the Bride, frequently they implied the maternal idea of the Church as born from Christ’s body.²¹⁴ This blend of nuptial and

²¹² Likewise, St. Paul wrote of himself as the mother of the Galatians, in labor for them again (Gal. 5:19). Metropolitan Archbishop Chrysostomos of blessed memory translated this verse, “My little children, of whom I travail in birth again until Christ be formed in you” (private communication). Paul also wrote to the Thessalonians that he behaved to them as a wet-nurse (τροφός), cherishing her children (τέκνα [lit. “born ones”]: 1 Thess. 2:7); I am grateful to Richard Conrad, O.P., of Blackfriars, and Patrick Hartin, Professor Emeritus of Gonzaga University, for discussing the term τροφός with me.

²¹³ Pope Benedict XVI recalled the patristic tradition of this in his Apostolic Exhortation in 2007: “Indeed, in the sacrifice of the Cross, Christ gave birth to the Church as his Bride and his body. The Fathers of the Church often meditated on the relationship between Eve’s coming forth from the side of Adam as he slept (cf. *Gen* 2:21–23) and the coming forth of the new Eve, the Church, from the open side of Christ sleeping in death”: *Sacramentum Caritatis*, §14.

²¹⁴ Lichtenwalner 2012: *The Church as the Bride of Christ in Magisterial Teaching from Leo XIII to John Paul II*, 218, citing *Sacrosanctum Concilium*, no. 5 [AAS 56, 99] and *Lumen gentium*, no. 3 [AAS 57, 6]. See also Tromp 1932: “De Nativitate Ecclesiae ex Corde Iesu”, *Gregorianum* 13: 489–527.

potentially maternal imagery is found in Sts. Albert the Great²¹⁵ and Thomas Aquinas²¹⁶ and sustained today.

Essential for considering the actual women of the Gospels, then, are revealed biblical metaphors of female personification for the soul and for the community in relation to God, and also prophecies indicating God's more than motherly love. Mary pre-eminently and with her other particular women are the embodied Gospel counterparts to the Old Testament female metaphors. It was the reality-realigning fact of the Incarnation that made it fitting that actual women fulfill those biblical metaphors. The metaphors remain valid in their own right; they have also gained living complements.

Consider Mary again. She is par excellence the tender, strong, faithful mother whose perfection highlights the wondrous love of God who describes his love for his people as maternal. At the Annunciation and afterwards, Mary's every act and word beautifully models the soul in relation to God and equally is she emblematic of the community in relation to God.

5. Conclusion

Created sexual difference has an iconic significance, presented in mystery in the inspired female personifications of the Old Testament and vivified by actual women known through the New Testament. The significance seems not to be primarily in the different modes in which male and female experience coitus. Rather, the unique, created female capacities for motherhood, which are physical capacities with psychological and spiritual complements, are the basis for the Old Testament metaphors of the soul and of the community as bride and wife. These are also the sole context for the rare but powerful analogy of Christ crucified as more faithful and loving than a nursing mother.

²¹⁵ Albertus Magnus c.1240-44: *In Evangelium Secundum Joannem* XIX, 34 (*Opera omnia*, t. 24), 663b: As from Adam's side came Eve, "so from the side of Christ sleeping the sleep of death on the Cross might be formed his spouse, the Church."

²¹⁶ Thomas Aquinas 1266-68: *ST* Ia, q.92. a.3; 1273: IIIa, q.64, a.2 ad.3; 1252/56: *In IV Sent.*, d. 8, q.1, a.1, sol.1; c.1270-72: *Super Io.*, 19:34, n. 2458.

Certainly, St. John Paul II described the female image of the Church as an expression of the ontological import of created sexual difference:

There is present in the “womanhood” of a woman who believes, and especially in a woman who is “consecrated,” a kind of inherent “prophecy,” a powerfully evocative symbolism, a highly significant “iconic character,” which ... aptly expresses the very essence of the Church as a community consecrated with the integrity of a “*virgin*” heart to become the “*bride*” of Christ and “*mother*” of believers.²¹⁷

This understanding augments his other teachings on women²¹⁸ and what has been articulated by subsequent popes, Benedict XVI²¹⁹ and Francis.²²⁰

At the same time, this iconic character is neither prescriptive of what women should do nor descriptive of what women are. If there were direct analogy between people’s primary sexual organs and their temperaments, then all men would be extroverts and all women introverts. Likewise, all men would be of active disposition and all women contemplative. Instead, manifestly all characteristics of temperament can subsist in individuals of both sexes. Rather the putative iconic character derives from distinctively female capacities used imaginatively by God in his revealed analogies of himself as more loving than a

²¹⁷ John Paul II, 29 June 1995: Letter to Women, §11, italics his.

²¹⁸ For instance, *Pope John Paul II on the Genius of Women* (Washington, D.C.: NCB / USCC, 1997).

²¹⁹ Pope Benedict XVI, see, for instance 2011: *Africae Munus*, II.D §§55–59 with its affirmation of the importance of “the specific character of each—since both men and women are the “image” of the Creator,” citing Gen 1:27 (§57). When in Africa he also asserted, “we must recognize, affirm and defend the equal dignity of man and woman: they are both persons, utterly unique among all the living beings found in the world”: Benedict XVI 2009: *Meeting with Catholic Movements for the Promotion of Women: Insegnamenti V/1*, 484.

²²⁰ Pope Francis spoke impressionistically (2020) of women contributing to the Church in “a way that is properly theirs, by making present the tender strength of Mary, the Mother”: Apostolic Exhortation *Querida Amazonia* (February 2), §101.

mother and of the human soul as his bride. In the same way, the fact that some men are called to be priests is not prescriptive or descriptive of all men.

The female image of soul / community in the Old Testament prepared God's people to see the iconic implications of specific women of the Gospels as they modeled the new Christian relationship with God incarnate. In Mary and Martha and the myrrhophoroi the female metaphors of the Old Testament became real, instantiated analogies, showing the female capacities to live in faith and to express faith in perfect, exemplary ways. Surely it is not accidental that in these women is the range of states that are found in the female metaphors, virgins and wives. That is, these capacities are not specifically virginal or spousal, but are essentially female. Once God the Son took on human nature, then forever human relations with God became personal in a new way. The sheer fact of the Incarnation, it appears, meant that the Bible's female personifications had to be augmented by living exemplars of how the human person is to respond to God incarnate.

How do the natural sciences pertain to this? Always it has been knowable that male and female are different in their complementary modes of generation. Always it has been knowable that male and female are equally essential for conception. Always it was known that Isaiah foretold a supernatural event when he prophesied that a virgin would conceive in her womb and give birth to a son. Modern refinements in the understanding of human fertility do not change those facts. Their contribution here to theological contemplation is detail with regard to the biblical metaphors. The biological sophistication of the X chromosome and of the female gamete are in every female, from the womb onwards. In contrast, the male has no gametes until adolescence. The contingencies of each woman that make possible conception, pregnancy, birth and nursing have metaphoric counterparts in that she can image the soul in relation to God, the Church in relation to God. Moreover, she can image God's own more than maternal love for humanity.

Central in this, both in concept and in the structure of this essay, is the Incarnating, the moment when God first became Man. Scientific advances allow the new hypotheses regarding the mode that God may well have used to effect

the Incarnating, and these theories affirm abiding Church doctrine, notably Mary's role as the full source of her Son's humanity. This is a rich complement to the antique recognition of Mary as the pre-eminent model for Christians. It is also an encouragement: just as God created female biological nature sufficient to provide all that was needed to form Christ's human nature, so we may be confident that God made each of us sufficient to receive and bear God's will in ourselves.

Finally, just as only men, and only some men, are called to be ordained in *persona Christi* perhaps some women, though not all, have the vocation to be *figura animae* or *figura Ecclesiae*, at least at some moments of their lives.

Aware of revealed biblical metaphors of God's more than motherly love and of soul and community, consider Mary again. She is par excellence the tender, strong, faithful mother whose perfection highlights the wondrous infinitely greater love of God, which is more than maternal. At the Annunciation and afterwards, her every act and word beautifully models the soul in relation to God and equally is emblematic of the community in relation to God.

With the Incarnating began a clearer expression of the *imago Dei* in both male and female. As Jesus called everyone who believes in him to take up the cross and follow him daily, so the fact of how God became man presents to all Christians the invitation to imitate Mary and like her to conceive the Lord in our hearts and minds and bring him forth in our lives. That new relationship is the living experience of what it means to be made in the image of God. And that relationship was modeled by women.

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