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Family as Vocation; Work as Mission

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Synopsis

The terms *vocation* and *mission* are often considered synonyms; both meaning work to which one feels called and deeply dedicated. But, for working mothers who feel called and deeply dedicated to both family and work, it can be useful to make a distinction between vocation and mission. Inspired by Catholicism and working for Catholic universities, we explore how the terms *vocation* and *mission* have been traditionally defined. The Catholic Church recognizes only four vocations (married life, single life, religious life, and ordained life), while there are countless specific missions that individuals and institutions can carry out. Each of these ideas is set not in conflict with the other but rather in service to the other. We then go on to investigate the ways in which our vocational calling to family life serves and informs our mission as educators and mathematicians and the missions of the institutions where we work, and vice-versa. By expanding from the particularly Catholic view of vocation and mission to the more broadly defined notions of family and work, this framework can be relevant to all working mothers, regardless of background.

Most working mothers have, at least occasionally, pondered the interplay and tensions between their work and family life. We are certainly no exception. Indeed we have often wondered: How can we reconcile the calling we have to both parenthood and to our careers as mathematics educators?

In this article, we suggest a framework that distinguishes between the ways we are called to family life and the ways we are called to our work as educators and mathematicians, and use that framework to explore how these two callings can inform and serve each other. While this framework is inspired by notions from Catholicism, it is broadly applicable to all working parents.

Being a working parent, and particularly a working mother, requires making difficult choices about where to spend the finite resources of time and energy. Allocating these resources can make it seem like work and motherhood are in competition with one another. These competing interests can lead to working mothers feeling like they are playing a zero-sum game. Time allocated to work requires sacrificing family time, and vice-versa. These sacrifices can cut deeply when the work is in academia where timelines for building the case for tenure and raising young children often coincide. Being a woman in a field traditionally dominated by men, such as mathematics, compounds these tensions. Related issues can include difficulties integrating socially into a department, being asked to do a disproportionate amount of service, student biases that can appear on teaching evaluations, or even blatant discrimination from students or colleagues. All these factors are further stressors on one's time and energy that could otherwise be spent with family. Feeling these tensions ourselves, we sought to reframe these ideas so that the time and energy invested in each pursuit is still in service of the other, even when sacrifices are made.

We first describe the ways that the terms *vocation* and *mission* have been traditionally defined in Catholicism. While these terms are often used synonymously in daily language, and offered as synonyms to one another in many dictionaries, they have very specific and distinctive meanings in the Catholic Church.

In Catholicism, the term *vocation* refers to a divine call to service in the form of a commitment to a state of life. The four vocations are married life, single life, religious life, and ordained life. Married and single are self-explanatory, while ordained and religious life include those who have dedicated themselves to Jesus and the Church in lieu of being married or single. "Ordained" means having undergone the specific ceremony of ordination to become deacons, priests, and/or bishops, while "religious" means members of a religious order or group, for example, nuns, monks, brothers, friars, sisters. There are many such communities with different characteristics. Male members of a religious

order may or may not be ordained, and ordained men do not necessarily belong to a religious order. In this paper we use the terms “clergy” and “religious” broadly to refer to both religious and ordained vocations, and we refer to the single and married vocations as “lay”.

Within these four broad vocational categories are any number of *missions*: the specific ways that an individual can go forth from their vocational calling to serve. Some examples of missions are radical service to the poor and neglected, like Mother Teresa and her community of sisters, or organizing to help in crises and natural disasters, like Catholic Relief Services. Some might be called to help the needy in more everyday ways, such as running food banks and homeless shelters. Some are called to educate, some to heal, some to pray for the world, some to foster children before they can be adopted. Or maybe one’s mission is to fight against injustices, or to provide aid and comfort to the disabled. Or maybe it’s to create music, to expand humanity’s knowledge, to garden. There are countless other examples. Sometimes in order to support their main mission of one of the above, religious communities will take up missions like making jewelry or art, running retreat centers or bread-and-breakfast homes, or brewing and selling beer. One’s mission is one’s passion, the drive for one’s daily actions. But missions, or the way they are pursued, can change. Vocation is the bigger picture, providing some framework and structure to what missions an individual chooses to engage in.

Many Catholics through the centuries have chosen scientific inquiry and mathematical discovery as their mission at least at some stage of their lives. Indeed there is a long and vibrant history of Catholic priests, brothers, and sisters who have made contributions to science and mathematics. Roger Bacon, the 13th century English philosopher who was an early proponent of the scientific method (see for instance his [1]), was a Franciscan friar [11]. Bernard Bolzano, the mathematician who proved both the Intermediate Value Theorem and the Bolzano-Weierstrauss Theorem (see [4]), was a priest in Prague in the early 19th century [15]. A Benedictine monk named Francesco Maurolico wrote a mathematical work in 1575 that contains the earliest recorded proof by mathematical induction [19]. Marin Mersenne, whose conjectures about primes of the form $2^n - 1$ gave them their name [8, pages 12–13] and who discovered mathematical formulas for the oscillations of strings in music theory [13], was a 17th century Minim friar. And Pope Sylvester II, who was the pope from 999 to 1003, taught math-

ematics and advocated in Europe for the use of the decimal system with Arabic numerals [6]. Still today, the members of many religious orders, particularly those that have a commitment to education, hold advanced degrees in all fields of study.

These Catholic contributors to science and mathematics mentioned above are all men, which reflects much of the history of science and mathematics as a whole. However, there are several notable Catholic women, both lay and religious, who have made contributions to the sciences and mathematics. Hildegard of Bingen was a medieval cloistered nun who composed music, wrote poetry, and constructed her own language. She also practiced medicine, created botanical and medicinal catalogs, and wrote about female health and sexuality. She corresponded with popes, other clergy, and nobility, and thus a lot of her works have survived when others from the same time period were lost. In 2012 she was named a saint and a Doctor of the Church by Pope Benedict XVI, one of only 36 saints to be named such, which means she and her writings are especially significant [12]. Maria Agnesi was an 18th century Italian Catholic laywoman who wrote a well-received mathematics textbook and has a curve named after her. She was appointed to the faculty at University of Bologna, possibly the first official female math professor, but she never actually served there. She spent the end of her life serving the poor and elderly in a nursing home which she founded [5]. Sister Mary Celine Fasenmeyer, an American member of the Religious Sisters of Mercy, earned her doctorate in mathematics from the University of Michigan in 1946. She taught mathematics at Mercyhurst College in Pennsylvania and her doctoral work in combinatorics gave rise to *Sister Celine's method*, which is used to find recurrence relations for hypergeometric polynomials [9, 10, 20].

Then missions of scientific and mathematical discovery and of education are compatible with vocations to the priesthood or ordained religious life, and certainly with the single life. What about the married life? There are countless examples of married men and fathers doing mathematics, but what about married women? Is being a mother incompatible with a mission outside of the home? In a word, no. We have examples of revered Catholic laywomen committed to the vocation of family life and motherhood who also felt called to a mission outside of their homes. Gianna Beretta Molla, a 20th century Italian saint, was a working pediatrician at the time of her death, shortly after the birth of her fourth child [14]. She felt that her work in medicine was a

way for her to use her talents to serve others, writing “Everyone works in the service of man. We doctors work on man himself . . . Just as the priest can touch Jesus, so do we touch Jesus in the bodies of our patients” [16]. Elizabeth Ann Seton, the first Catholic saint born in the United States, founded the first free Catholic school in America in 1809. She worked in service of the education of girls, particularly those from poor families, all while raising five children [3]. Dorothy Day, the 20th century American journalist and social activist, raised her daughter while helping to establish the Catholic Worker Movement [7].

We see examples of women living out their vocations as mothers, while being called to use their talents to a mission of service. Teaching mathematics is an important service, too. The authors of the article “Quantitative Literacy for Social Justice” write “Quantitatively literate individuals are better able to address inequitable societal situations, and they can improve their own life quality. In both cases they acquire and exert greater personal power to forge a better life, in the first case collectively for all people and in the second, individually, for themselves and their families” [21]. And, as former MAA President Francis Su wrote, “. . . the practice of mathematics cultivates virtues that help people flourish. These virtues serve you well no matter what profession you choose” [18]. Having basic quantitative literacy is necessary for many jobs and other aspects of our society, but human flourishing is more likely with logical reasoning and abstract thinking, both things we in mathematics are especially good at using and instilling. Then our jobs are not just about teaching the vocabulary and methods of algebra, calculus, or statistics, but about serving our students to increase their personal power and fulfillment as human beings.

The institutions at which we work both place a particular emphasis on the service aspect of education. Franciscan University of Steubenville’s mission includes the statement that the institution will be guided by the example and teaching of St. Francis of Assisi.¹ That means in part that we will have a preference for the poor, the oppressed, and the suffering. While many people think that means anyone who is forced to take a math class, we know that our mission as educators is to open the world of mathematical thinking to

¹See The Mission of Franciscan University of Steubenville, available at <https://www.franciscan.edu/about/mission-statement/>, last accessed on July 17, 2018.

everyone we encounter. We are not the gatekeepers of an exclusive knowledge, but mathematical missionaries. This mathematical missionary work is an important service for all students, but perhaps especially to underserved students. Dominican University has a mission-based focus on providing an education for underserved and underrepresented students, beginning with its founding as an institution teaching math and science to women, and continuing today as a Hispanic Serving Institution. In 2016, over half of the new incoming first-year students to Dominican University were Pell Grant recipients (based solely on financial need) and over half of the incoming freshman students reported a Hispanic background.² But regardless of the mission or affiliation of our institutions, doing and teaching mathematics is service—service to students, service to knowledge and discovery, and service to a profession.

Edith Stein, a German Jewish nurse and philosopher who converted to Catholicism and became a nun before she was killed at Auschwitz [2], wrote, “A common creativity in all areas was assigned in the original order . . . and wherever the circle of domestic duties is too narrow for the wife to attain the full formation of her powers, both nature and reason concur that she reach out beyond this circle” [17]. It is natural then that as women with a service mindset who have been given talent and opportunity in mathematics, we have been called to a mission outside of the home, and that mission is doing and teaching mathematics.

But our mission also positively affects our vocation as wives and mothers. We believe that our families run better precisely because we pursue our passions, not in spite of it. Time is still in tension, but giving some priority to our passion, our mission, leads us to feel happier and more fulfilled, and thus be better partners and mothers. We are also instilling a service mindset in our children. They see us loving our families and serving our communities and will be encouraged that they can do the same.

Our daughters know that STEM is open to girls because they have us as examples. They know they can be wives and mothers because they have us as examples. They know that whatever their vocation, or calling to a state of

²See Dominican University Institutional Data, available at <http://www2.dom.edu/oie/institutional-data>, last accessed on July 17, 2018.

life, may be, they can live that out joyfully with different missions. As Edith Stein wrote, “Every profession in which woman’s soul comes into its own and which can be formed by woman’s soul is an authentic woman’s profession” [17].

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