

Religious and Priestly Formation in an Artificial Intelligence Landscape: Critical Perspectives

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Abstract

The flourishing presence of Artificial Intelligence (AI) in contemporary society presents a complex challenge, sparking vigorous public debate and concern. The influence of AI transcends the broader societal context, reaching the very institutions that nurture future Church leaders: formation houses for priests and religious. The continuous exposure of formees to the complexities of AI necessitates a critical analysis of its potential influence on their formation journey. This paper employs the framework of human, spiritual, intellectual, and pastoral formation outlined in the post-synodal apostolic exhortation *Pastores Dabo Vobis* as a lens to critically analyse the impact of AI on religious and priestly formation. The article critically analyses the influence of AI on each formation aspect, addressing ethical concerns, spiritual distractions, intellectual pitfalls, and potential pastoral passivity. The urgency to reinforce the current formation paradigm is emphasised, calling for

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comprehensive guidelines to navigate the widespread influence of AI while preserving core values.

Keywords: Formation Houses, *Pastores Dabo Vobis*, Religious and Priestly Formation, Integral Formation

Introduction

In recent years, the pervasiveness of AI has become increasingly evident across diverse domains, and seminary formation is no exception. Even though AI has been used for years, it was mainstreamed with the release of a Large Language Model (LLM) called Chat GPT by Open AI. The rapid and uncritical adoption after its release, reaching one million users within five days, marked a historical turning point (Zaralli, 2024). Notably, in comparison to Netflix, which took three and a half years to get one million subscribers, Chat GPT garnered 100 million monthly users after a month of its release (Kreps & Kriner, 2023, p. 122). The release of Chat GPT was followed by the release of a plethora of AI tools, the latest being ‘Sora’, which creates videos from the text prompts. The scale of AI-based new releases are appearing at an unprecedented pace across the globe, prompting The World Economic Forum’s AI Governance Alliance to underline the “necessity to protect our society from unforeseen outcomes induced by the swiftly developing generative AI systems... [and to advocate for] responsible strategies concerning their development and deployment” (“The Presidio Recommendations on Responsible Generative AI”, 2023). In a similar vein, the document ‘Rome Call for AI Ethics,’ promoted by the Pontifical Academy for Life and Renaissance Foundation, highlights the qualitative nature of the changes initiated by AI that can transform “the way in which we perceive reality and human nature itself, ...[thereby influencing] our mental and interpersonal habits” (Rome Call, February 28, 2020). Considering the importance of mental and interpersonal development in the integral formation of future priests and religious, the potential impact of AI presents a noteworthy challenge.

Throughout history, the Catholic Church has been aware of the impact of technology on the faithful, particularly those undergoing formation, and has provided clear guidelines. For instance, the “Guide to the training of Future Priests Concerning the Instruments of Social Communication,” refers to the conciliar document *Inter Mirifica*. It observes that the document highlighted the pastoral and formative challenges posed by the instruments of social communication which

concerns “the whole People of God [...]amongst which seminarians have pride of place” (Congregation for Catholic Education, March 19, 1986).

However, the slow and steady progress of AI was generally overlooked in religious and priestly formation. As an example, a study was conducted among rectors of Theologate and College seminaries in six English-speaking nations¹ on the subject of ‘Engaging Science in Seminaries.’ When asked, “How important is seminarians’ understanding of the following topics to their preparation to evangelise in a scientific and technological world?” AI was rated as the least important compared to other subjects such as Human Sexuality, Euthanasia, and Stem Cell Research in preparing seminarians for evangelisation in a scientific and technological context (Gautier, Ngundo, & Kramarek, 2017). Given the potential impact of Artificial Intelligence (AI) on the formation of priests and religious, this article analyses its influence through the lens of Human, Spiritual, Intellectual, and Pastoral formation. To that end, we will first define AI and provide an overview of the field, then outline the four key areas of the formation framework, and finally analyse the impact of AI on each aspect.

Artificial Intelligence and Human Person

The field of Artificial Intelligence (AI) lacks a universally agreed-upon definition. Reasons for inconclusiveness include the lack of consensus on the meaning of the term intelligence and the relation between human intelligence and machine intelligence (Kaplan, 2024). However, this article explores the topic of AI through two general definitions. According to Stuart Russel and Peter Norvig, “The field of artificial intelligence, or AI, is concerned with not just understanding but also building intelligent entities – machines that can compute how to act effectively and safely in a wide variety of novel situations” (Russell & Norvig, 2022, p. 19). Without referring to the term intelligence, Pope Francis states, “[AI] embraces a variety of sciences, theories and techniques aimed at making machines reproduce or imitate in their functioning the cognitive abilities of human beings” (Pope Francis, 2023). Though these definitions have different emphases, they converge on the prime focus of AI, namely the capability of machines to perform tasks that are typically associated with human intelligence.

¹United States, Canada, Great Britain, Ireland, South Africa, and Australia

From the perspective of intelligence, technologies using AI can be classified into Artificial Narrow Intelligence (ANI), Artificial General Intelligence (AGI) and Artificial Superintelligence (ASI) (Gurkaynak et al., 2016). ANI, also called Weak AI, is focused on performing specific tasks such as the generation of texts and images by LLMs like Chat GPT. In this context, the emphasis lies “more on building tools for helping humans in their work rather than on replacing them” (Nilsson, 2005, p. 69). AGI represents a hypothetical scenario in which AI would exhibit intelligence at a level comparable to that of humans (Gurkaynak et al., 2016, p. 751). ASI refers to “any intellect that greatly exceeds the cognitive performance of humans in virtually all domains of interest” (Bostrom, 2014, p. 26). While AGI and ASI continue to remain theoretical, all AI-based tools in use now belong to the category of ANI. Nick Bostrom observes that “many of them [ANI] contain components that might also play a role in future artificial general intelligence or be of service in its development” (Bostrom, 2014, p. 19).

Human person is empowered and impoverished by the developments in the field of AI. The transformative power of AI, driven by LLMs, is becoming increasingly evident across aspects of contemporary human life. The LLMs are capable of converting text into images, music, video, codes and to get creative and detailed information. As technology advances, the use and expertise of LLMs are anticipated to expand to new domains: “Soon, LLMs will provide expert medical care, dispense legal advice, draft our documents, tutor our children, offer advice, conduct therapy, write computer programs, and manage our organisations and infrastructure” (Kaplan, 2024, p. 1). However, AI’s prospects are overshadowed by its associated challenges. As Pope Francis rightly states, “The challenges it [AI] poses are technical, but also anthropological, educational, social and political” (Pope Francis, 2023). Without doubt, these challenges impact human person.

AI impoverishes the human person in several ways. Coeckelbergh (2022) observes that AI can unconsciously alter the behaviour of the human person by nudging. Nudging involves changing the choice environment to steer human person to a particular decision: “By working on people’s subconscious psychology, it [AI] manipulates them without respecting them as rational persons who wish to set their own goals and make their own choices” (Coeckelbergh, 2022, p. 18). A study conducted among university students in Pakistan and

China on the impact of using AI in the education sector revealed that it “increases the loss of human decision-making capabilities, makes users lazy by performing and automating the work, and increases security and privacy” (Ahmad et al., 2023, p. 11). The enhanced capability of surveillance both online and offline aided by AI tools could threaten the freedom of human person. Shoshana Zuboff, in *The Age of Surveillance Capitalism* highlights the harvesting human experience including our voices, personalities and emotions as “free raw material” to predict human behaviour. Alarmingly, surveillance capitalists use machine intelligence to “not only know our behaviour but also shape our behaviour to scale” (Zuboff, 2019). The influence of AI on human person is a challenge that contemporary society voices with concern and debates with vigour in the public space. Formation houses for future priests and religious are not immune to the influences of AI. The constant exposure of formees to these complexities necessitates a critical examination of AI’s influence on their formation journey, using the framework of human, spiritual, intellectual, and pastoral formation as outlined in the post-synodal apostolic exhortation *Pastores Dabo Vobis*.

The Formation Paradigm in *Pastores Dabo Vobis*

The apostolic exhortation *Pastores Dabo Vobis* written by Pope John Paul II aims at holistic formation by focusing four areas of formation, namely human, spiritual, intellectual, and pastoral. This apostolic exhortation is considered a “turning point in history” because priestly formation is approached “with an integral vision and a broad view of priestly ministry” (Choorapanthiyil, 2021). According to the document *The Gift of Priestly Vocation*, these four dimensions of formation are not stand alone features but engages in continuous interaction during the formation period as well as in the life of the formees to lead them to “transforming or assimilating the heart in the image of the heart of Christ” (Congregation for the Clergy, 2017, 89). Attaining the goal of integral formation which is considered as “of the greatest importance” requires a coherent approach that balances and integrates these diverse areas (Congregation for the Clergy, 2017, 91–92).

Pastores Dabo Vobis considers human formation as the “necessary foundation” of priestly formation (Pope John Paul II, 1992, #43). Human formation helps mould a personality that is modelled on Jesus Christ. A personality centred on Christ would enhance the proclamation of the word of God. Formation of such a personality involves nurturing

human qualities for self-realisation and helps effectively engage in pastoral ministry. Some of the human qualities that the document outlines are truth, respect, a sense of justice, faithfulness, compassion, integrity, and balance in judgment and behaviour. Human formation also involves cultivating interpersonal skills to relate to the community such as affability, hospitability, sincerity, discretion, openness and spirit of service. Another associated quality is affective maturity, which demands self-mastery through the responsible utilisation of one's freedom. Finally responsible use of freedom requires formation of conscience.

The completion of human formation is spiritual formation. The foundation of spiritual formation is the "fundamental and irrepressible religious need" to be in "a relationship and communion with God" (Pope John Paul II, 1992, #45). The document considers spiritual formation as an essential foundation and "an extremely important element" because it is the life-giving core that unites one's being and acting as a priest. Spiritual formation nurtures an intimate union with the Trinity, fostered through practices such as meditation on Scripture, maintaining a deep prayer life, actively participating in the Eucharist and Divine Office, regularly confessing, seeking Christ in superiors and the faithful, devotion to the Blessed Virgin Mary, and a steadfast commitment to the vows of obedience, celibacy, poverty, and a preferential love for the poor.

The next dimension of formation is intellectual formation. The document emphasises the interconnectedness of intellectual formation with human and spiritual formation, characterising intellectual development as "deeply connected" and "a necessary expression of" those other aspects of growth (Pope John Paul II, 1992, #51). The growing challenges for the Church in the contemporary world such as religious indifference, mistrust in reason and questions raised by scientific and technological discoveries underscores the necessity of "an extremely rigorous intellectual formation." Intellectual formation involves the study of Theology and Philosophy. Intellectual formation has to be complemented by spiritual formation so that "they meet and strengthen each other." Given the complexity of the time, the document stresses the need for future priests to have competence, clarity, and deep reasoning, and warns against watering down the "seriousness of studies and the commitment to them" (Pope John Paul II, 1992, #56).

Pastoral formation aims to inculcate a pastoral character in the candidates modelled on the true shepherd Jesus Christ. The importance of pastoral character is underscored when the document notes that the purpose of the entire formation programme is to prepare the formees “to enter into communion with the charity of Christ the good shepherd” (Pope John Paul II, 1992, #57). In accordance with the spirit of *Optatam Totius*, the Second Vatican Council’s Decree on Priestly Training, candidates must undergo training to mould them into true shepherds. This training encompasses the ministries of the Word of God, worship, and sanctification, preparing them to undertake the role of the true Shepherd, Jesus Christ. Through pastoral theology, the formees are equipped to make a scientific reflection of the Church, which is constantly being built by the power of the Holy Spirit. Furthermore, they are trained in evangelical discernment, developing their ability to critically assess and engage with the socio-cultural and ecclesial realities of the pastoral field. Pastoral formation also involves inculcating the sensitivity of being a Shepherd, maturity and consciousness in handling responsibilities, ability to evaluate problems and propose solutions. This dimension of formation also entails cultivating an awareness of the Church as a mystery, communion, and mission (Pope John Paul II, 1992, #59). The awareness about the Church as a mystery would bring in the conviction that the Church flourishes due to the work of the Holy Spirit and the formees are merely an “unworthy servant” at the service of the Spirit. The understanding of the Church as communion and mission orient the formees to engage in pastoral work with community spirit and missionary orientation, making themselves open and available to the diverse opportunities to proclaim the Gospel.

A Critical Analysis of AI’s Impact on Formation

While AI offers potential advantages in the identification and formation of candidates, it also poses a number of challenges. AI tools could assist vocation promoters in reaching out to parishes and institutions with greater efficiency in identifying prospective candidates. Ethical analysis of data from dioceses and institutions using AI tools could become early indicators of areas and individuals for vocation promoters. In the seminary, AI could be helpful in doing a general analysis of the candidate to identify his strength and weakness. This could complement the presently existing formation programme by making it more personal and effective. However, the flip side is that AI analysis of data could result in biased and discriminatory outcomes, leading to

overlooking genuine vocations. Extensive use of AI in formation could decrease personal accompaniment, human interaction and make the discernment process difficult. Furthermore, the formees could overlook essential qualities such as critical thinking and emotional maturity. The impact of AI on human formation is analysed based on the framework of human, spiritual, intellectual, and pastoral formation.

The uncritical use of AI by formees could be determinantal in getting the desired outcome of human formation outlined in *Pastores Dabo Vobis*. Key outcomes of human formation involve developing a strong moral compass, interpersonal skills, emotional intelligence, and a well-formed conscience. The ability of the formees to make free and informed decisions can be affected if they are locked in filter bubbles and digital echo chambers. According to Judith Möller “both concepts [filter bubbles and digital echo chambers] are based on the notion that people are excluded from information that is different from what they already believe” (Möller, 2021, p. 92). AI algorithms could insulate formees from limiting their awareness of opposing viewpoints and reinforce their existing beliefs. This could also be used to emotionally manipulate them by exposing them to emotionally charged content. For instance, feeding them with news and other information against a particular religion. Jungherr and Schroeder (2023) observes, “Media structures—such as Facebook, TikTok, Twitter, and YouTube—rely on AI-driven applications to shape information environments and user behavior...” (p. 164). The interpersonal skills of formees could be weakened by excessive reliance on AI tools by fulfilling intellectual and emotional needs without real-world interaction. Studies suggest that “frequent use of intelligent electronic devices has a negative impact on adolescents’ interpersonal relationships and social adaptability” (Lai et al., 2023, p. 2). Another manner in which AI exerts its influence is by displaying a complete disregard for truth. AI tools like LLMs, with “no commitment to the truth” (Jungherr, 2023) but rather a focus on plausibility, can alter a seminarian’s outlook on truth. This, in turn, could impact the development of their conscience in discerning right from wrong.

Spiritual formation could also be on the receiving end during the AI wave. Spiritual formation is the core of priestly development. It is aimed at fostering an intimate union with God through various spiritual practices such as deep prayer life, active participation in the Eucharist and Divine Office and commitment to vows. This formation

is envisioned to equip formees to be both effective ministers and individuals deeply connected to God. However, AI-based technology could place barriers in this area of formation. AI-based technologies are addictive as they can continuously feed personalised content to the formees. This dependence can trigger Fear of Missing Out (FOMO). FOMO prompts formees to compulsively check social media updates, fearing they might miss something important and keep them glued to their devices. A study conducted among University students in Malaysia and Turkey on FOMO and spiritual wellbeing concluded that FOMO “negatively affects their spiritual wellbeing” (Tutar et al., 2022, p. 11). The constant presence of the digital world, coupled with advancements in AI, poses a significant challenge: the potential for complete loss of concentration due to constant distractions, hindering individuals from engaging in deep contemplation and reflection (Lektawan, 2024). Hence, AI has the potential to distract and disorient formees in their spiritual growth.

Another area of formation that could be directly impacted by AI is intellectual formation. Intellectual formation necessitates a serious and committed study of Philosophy and Theology, enabling formees to acquire critical thinking, clarity of thought, and the necessary competence for future ministry. However, LLMs such as Chat GPT and Gemini present two major hurdles in the intellectual formation process. Firstly, the capacity of LLMs to generate essays or assignments based on prompts makes it easy for formees to plagiarise content. Secondly, the challenge for teachers to distinguish between LLM-generated content and student-generated content could result in the incorrect assessment of formees (Cotton, 2024). The escalating reliance on AI carries additional consequences, including the potential limitation and eventual decrease in the power of the human brain to think critically. It may contribute to the development of impatience and laziness among formees, heighten stress when faced with independent decision-making, and weaken the professional expertise essential for effective ministry (Ahmad et al., 2023). The challenges associated with incorporating AI into intellectual formation cannot be overlooked, notwithstanding its promising prospects.

AI could also interfere with the dimension of Pastoral formation. Pastoral formation involves training to be true shepherds in the prospective areas of their ministry, instilling qualities such as sensitivity, mature responsibility, and the ability to assess problems and propose

solutions. However, AI has the potential to jeopardise pastoral formation in multiple ways. Frequent interactions with AI-powered online companions like ‘Replika,’ (2024), which formees can customise and engage with effortlessly, may lead to their confinement within personal spaces. Jonathan Haidt and Eric Schmidt observe that many users of these online companions perceive them as “better conversationalists” than random individuals encountered on dating apps and websites. They assert, “as these technologies are improved and rolled out more widely, video games, immersive-pornography sites, and more will become far more enticing and exploitative” (Haidt & Schmidt, 2023). Consequently, in the context of formation, these AI-powered apps and websites could halt their progress toward emotional maturity. Formees may also encounter a disparity between their expectations of the faithful and the reality they face on the ground. The excessive reliance on AI may diminish essential qualities required for pastoral ministry, such as creativity and social interaction, while potentially fostering human passivity and laziness (Sabharwal, Robin Kabha, & Srivastava, 2023). All of these factors could discourage formees from stepping outside their online comfort zones and engaging with the challenging realities of contemporary pastoral fields.

Conclusion

The analysis of the impact of AI on human, spiritual, intellectual, and pastoral formation areas brings forth concerns and challenges that require immediate attention and action. The urgency is underscored by the rapid development of AI, presenting both new opportunities and novel challenges, especially in the field of formation. While the advantages of AI extend from identifying vocations and seminary formation to ongoing development—tasks such as analysing data for prospective candidates, providing personalised learning content for seminarians, disseminating Gospel content through AI-powered social media platforms, and facilitating accessibility to skill development at any age—however, as highlighted, the ethical challenges, personal disorientations, spiritual distractions, intellectual laziness, and pastoral passivity could prove detrimental to integral formation. Therefore, there is a crucial need to reinforce the existing formation paradigm.

Strengthening the present formation paradigm involves formulating a comprehensive guideline in response to the pervasive influence of AI. This guideline would define the possibilities and boundaries of formation in light of unbridled AI progress. It should also outline the

modalities of a renewed formation paradigm, specifically addressing AI-formation perspectives within the human, spiritual, intellectual, and pastoral areas. However, these general guidelines must be complemented by customised priorities in each formation house, recognising that formees' exposure to AI varies based on location and age. A proactive approach to AI can help safeguard the core values envisioned in the human, spiritual, and intellectual areas of formation and harness its potential benefits.

References

- Ahmad, S. F., Han, H., Alam, M. M., Rehmat, M. K., Irshad, M., Arraño-Muñoz, M., & Ariza-Montes, A. (June 9, 2023). Impact of Artificial Intelligence on Human Loss in Decision Making, Laziness and Safety in Education. *Humanities and Social Sciences Communications*, 10(1), 1–14. <https://doi.org/10.1057/s41599-023-01787-8>.
- Bostrom, N. (2014). *Superintelligence: Paths, Dangers, Strategies*. Oxford University Press.
- Choorapanthiyil, M. (2021). *The Gift of Consecrated Life*. Carmel Nivas.
- Coeckelbergh, M. (2022). *The Political Philosophy of AI: An Introduction*. Polity Press.
- Congregation for Catholic Education. (March 19, 1986). *Guide to the Training of Future Priests Concerning the Instruments of Social Communications*. https://www.vatican.va/roman_curia/pontifical_councils/pccs/documents/rc_pc_pccs_doc_19031986_guide-for-future-priests_en.html.
- Congregation for the Clergy. (2017). *The Gift of the Priestly Vocation*. Carmel International Publishing House.
- Cotton, D. R. E., Cotton, P. A., & Shipway, J. R. (March 3, 2024). Chatting and cheating: ensuring academic integrity in the era of ChatGPT. *Innovations in Education and Teaching International*, 61(2), 228–39. <https://doi.org/10.1080/14703297.2023.2190148>.
- Gautier, M. L., Ngundo, B. M. & Kramarek, M. J. (April 2017). *Engaging Science in Seminaries*. <https://www.usccb.org/resources/Seminary-and-Science-report-FINAL-002.pdf>.
- Gurkaynak, G., Yilmaz, I., & Haksever, G. (October 1, 2016). Stifling artificial intelligence: Human perils. *Computer Law &*

- Security Review*, 32(5), 749–58. <https://doi.org/10.1016/j.clsr.2016.05.003>.
- Haidt, J., & Schmidt, E. (May 5, 2023). AI is about to make social media (much) more toxic. *The Atlantic*. <https://www.theatlantic.com/technology/archive/2023/05/generative-ai-social-media-integration-dangers-disinformation-addiction/673940/>.
- Jungherr, A. (July 1, 2023). Artificial intelligence and democracy: A conceptual framework. *Social Media + Society*, 9(3). <https://doi.org/10.1177/20563051231186353>.
- Jungherr, A., & Schroeder, R. (2023). Artificial Intelligence and the Public Arena. *Communication Theory*, 33(2–3), 164–73. <https://doi.org/10.1093/ct/qtad006>.
- Kaplan, J. (2024). *Generative Artificial Intelligence: What Everyone Needs to Know*. Oxford University Press.
- Kreps, S., & Kriner, D. (2023). How AI Threatens Democracy. *Journal of Democracy*, 34(4), 122–31.
- Lai, T., Xie, C., Ruan, M., Wang, Z., Lu, H., & Fu, S. (2023). Influence of artificial intelligence in education on adolescents' social adaptability: The mediatory role of social support. *Plos One*, 18(3). <https://doi.org/10.1371/journal.pone.0283170>.
- Lektawan, F. K. (2024). Communicating with the Holy Spirit in the Age of AI Technology: Catholic. *Stipas Tahasak Danum Pabelum Keuskupan Palangkaraya*, 1(1), 88–99.
- Möller, J. (2021). Filter bubbles and digital echo chambers. In H. Tumber & S. Waisbord (Eds.), *The Routledge Companion to Media Disinformation and Populism*, 92–100. Routledge.
- Nilsson, N. J. (December 15, 2005). Human-Level Artificial Intelligence? Be Serious! *AI Magazine*, 26(4), 68–68. <https://doi.org/10.1609/aimag.v26i4.1850>.
- Pope Francis. (December 8, 2023). *Artificial Intelligence and Peace*. <https://www.vatican.va/content/francesco/en/messages/peace/documents/20231208-messaggio-57giornatamondialepace2024.html>.
- Pope John Paul II. (March 25, 1992). *Pastores Dabo Vobis*. https://www.vatican.va/content/john-paul-ii/en/apost_exhortations/documents/hf_jp-ii_exh_25031992_pastores-dabo-vobis.html.

- Replika. (n.d.).“Replika.” Accessed March 6, 2024. <https://replika.com>.
- Rome Call. (February 28, 2020). “Rome Call for AI Ethics”. https://www.romecall.org/wp-content/uploads/2022/03/RomeCall_Paper_web.pdf.
- Russell, S., & Norvig, P. (2022). *Artificial Intelligence: A Modern Approach* (4th Ed). Pearson.
- Sabharwal, D., Kabha, R., & Srivastava, K. (2023). Artificial Intelligence (AI)-Powered virtual assistants and their effect on human productivity and laziness: Study on students of Delhi-NCR (India) & Fujairah (UAE). *Journal of Content Community and Communication*, 17(9), 162–74. <https://doi.org/10.31620/JCCC.06.23/12>.
- Tutar, H., & Çoban, D. T. (2022). Intercultural study of the fear of missing out, spiritual well-being and individual differences among university students in Malaysia and Turkey. *ASR: Chiang Mai University Journal of Social Sciences and Humanities*, 8(1). <https://doi.org/10.12982/CMUJASR.2021.004>.
- World Economic Forum. (June 2023). *The Presidio Recommendations on Responsible Generative AI*. <https://www.weforum.org/publications/the-presidio-recommendations-on-responsible-generative-ai/>.
- Zaralli, M. (2024). *Virtual Reality and Artificial Intelligence: Risks and Opportunities for Your Business*. Routledge.
- Zuboff, S. (2019). *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. Profile books.