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From the Throwaway Culture to the Culture of Replacement: Artificial Intelligence and the Transformation of the Human Relational Environment in the Light of the Encyclical *Laudato si'*

Abstract

The article rereads the integral ecology of the encyclical *Laudato si'* in the context of the spread of artificial intelligence. Starting from the relational core of the concept of ecology and from the teaching of John Paul II, Benedict XVI and Francis, the author shows that AI's transformation of the human relational environment is an ecological question in the strict sense. The analysis of AI's material footprint, of "AI companions" and of digital loneliness leads to the category of the culture of replacement: a radicalisation of the throwaway culture in which a tailored simulation takes the place of the person. The response remains an ecological conversion applied to relationships.

Keywords: *Laudato si'*, artificial intelligence. integral ecology, culture of replacement, AI companions.

Od kultury odrzucenia do kultury zastąpienia. Sztuczna inteligencja i przemiana środowiska relacyjnego człowieka w świetle encykliki *Laudato si'*

Streszczenie

Artykuł odczytuje ekologię integralną encykliki *Laudato si'* w kontekście upowszechnienia sztucznej inteligencji. Wychodząc od relacyjnego rdzenia pojęcia ekologii oraz nauczania Jana Pawła II, Benedykta XVI i Franciszka, autor wykazuje, że przekształcenie środowiska relacyjnego człowieka przez AI jest zagadnieniem ekologicznym w sensie ścisłym. Analiza materialnego śladu AI oraz zjawiska „towarzyszy AI" i samotności cyfrowej prowadzi do zaproponowania kategorii kultury zastąpienia – radykalizacji kultury odrzucenia, w której miejsce osoby zajmuje dopasowana symulacja. Kryterium oceny stanowi wzajemność relacji odniesiona do osoby jako *imago Dei*, a odpowiedzią pozostaje nawrócenie ekologiczne odniesione do relacji.

Słowa kluczowe: *Laudato si'*, sztuczna inteligencja, ekologia integralna, kultura zastąpienia, towarzysze AI.

Eleven years have passed since the promulgation of the encyclical *Laudato si'*. It was the first papal document of this rank devoted entirely to ecology – a voice that raised care for "our common home" to the status of a theological question. Since 2015, however, the context of human life has changed in a way the encyclical could not have foreseen: at the end of 2022, artificial intelligence became a widely accessible technology[1]. This change is taking place on two levels. On the one hand, the processing of enormous quantities of data places a real burden on the natural environment through the consumption of energy and water[2]. On the other hand, the anthropological environment – that is, the whole network of relationships in which the human person lives – is being transformed. These two levels – the natural and the relational – converge, as will become apparent, in a single concept: the environment of life.

The literature on *Laudato si'* is already extensive: its integral ecology, its reception in Catholic social teaching and its category of the "throwaway culture" have all been studied. In parallel, theological-anthropological reflection on artificial intelligence is developing, especially around the *imago Dei* and the status of the person, while the empirical sciences are supplying data on "AI companions" and loneliness. What is lacking, however, are studies that would read the encyclical's integral ecology directly through the prism of AI's transformation of the human relational environment and that would name the dynamic specific to this technology. The present article addresses precisely this gap. The distinctive approach adopted here thus consists not in a new subject but in a new perspective: in reading the 2015 encyclical in a situation in which artificial intelligence is changing the very environment of life. Its fruit is the proposal of the category of the "culture of replacement" as a radicalisation of the throwaway culture and herein lies the novelty and the significance of the research undertaken.

Four research hypotheses follow from the above. First (H1): ecology – both in its relational conceptual core and in the interpretation of the Magisterium – inseparably embraces the natural environment and the relational-anthropological environment of the human person. Second (H2): artificial intelligence, especially its relational applications, produces a qualitatively different environment of life, radicalising the technocratic paradigm and transforming both interpersonal relationships and the human relationship with nature. Third (H3): the phenomenon of "AI companions" can be read as a passage from the throwaway culture to the culture of replacement – the substitution of a simulated relationship for a relationship with

[1] OpenAI. 2022. Introducing ChatGPT. https://openai.com/index/chatgpt/ (16.07.2026).

[2] International Energy Agency. 2025. *Energy and AI*. https://www.iea.org/reports/energy-and-ai (16.07.2026).

another human being. Fourth (H4): what determines the value of a relationship is its reciprocity and its reference to the person as *imago Dei*; a relationship with AI, being structurally non-reciprocal, cannot replace an interpersonal relationship, although it can really displace it.

The aim of this article is not merely to pose these questions but to answer them: to demonstrate that the transformation of the relational environment by AI is an ecological question in the strict, integral sense, and that the proper response remains an ecological conversion applied to relationships. The method employed is that proper to contextual theology, based on the "see – judge – act" schema characteristic of *Laudato si'* and combined with comparative analysis. The analysis covers the encyclical itself – together with the preceding teaching of John Paul II and Benedict XVI and the most recent documents of the Holy See on artificial intelligence – as well as peer-reviewed scholarly studies and empirical data from psychology and media studies, used at the "see" stage.

The structure of the article reflects this method. The first part establishes the concept of ecology as care for the whole environment of life and draws from it the criterion of the reciprocity of relationships. The second part describes the new environment of life in the world of AI – its material footprint as well as the phenomenon of AI companions and "digital loneliness". The third part undertakes a theological-anthropological assessment, introduces the category of the culture of replacement and points to the response: a civilisation of love leading to ecological conversion.

1. Ecology as care for the whole environment of human life

An accurate diagnosis of the question at hand requires that it first be specified in what sense the term "ecology" is used here. In its everyday and originally scientific meaning it refers to the natural environment. In the natural sciences, ecology is the study of the structure and functioning of nature, examining the interactions between organisms and their environment as well as among organisms themselves[3]. The very etymology of the term indicates that ecology was conceived as the science of the "house", that is, of the web of mutual relationships within which organisms develop. This relational core of the concept means – as will be shown – that it can legitimately be extended to the whole environment of human life.

[3] Eugene P. Odum, Gary W. Barrett. 2005[5]. *Fundamentals of Ecology*. Belmont: Thomson Brooks/Cole.

1.1. Ecology as a science of relationships

The term "ecology" was coined in 1866 by Ernst Haeckel, who combined the Greek *oíkos* (house) and *lógos* (science); ecology was to be the "science of the house", that is, of the totality of the dependencies between an organism and its surroundings. It is significant that the same root *oíkos* underlies the concepts of "economy" and "ecumenism" – all of them describe some order of common dwelling and of mutual interconnection[4]. The object of ecology is therefore not individual beings considered separately but the network of relationships that constitutes an "ecosystem": it is relationships, not isolated elements, that determine its identity.

This circumstance is of fundamental importance. If ecology is in its essence a science of relationships and interdependencies, its logic can legitimately be applied wherever such a network exists – and therefore also to the environment of life of the human person. This is not an abuse of the concept but a consistent development of its core. Pope Francis himself proceeds in this way in *Laudato si'* when he cites the classical definition drawn from the natural sciences: "Ecology studies the relationship between living organisms and the environment in which they develop". The definition is immediately universalised, however, when he adds:

> It cannot be emphasized enough how everything is interconnected. Time and space are not independent of one another, and not even atoms or subatomic particles can be considered in isolation. Just as the different aspects of the planet – physical, chemical and biological – are interrelated, so too living species are part of a network which we will never fully explore and understand[5].

The extension of the concept of ecology to the whole environment of human life is therefore not an idea of this article. What is more, it is not even an idea of the 2015 encyclical. It has been present in the teaching of the Church at least since the turn of the 1980s and 1990s – beginning with John Paul II.

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[4] Judith Gruber. 2017. "Ec(o)clesiology: Ecology as Ecclesiology in Laudato si'". Theological Studies 78 (4): 807–824; Teresa Messias. 2024. "From Ecotheology to Ecospirituality in Laudato sí – Ecological Spirituality beyond Christian Religion". Religions 15 (1): 2.

[5] Francis. 2015. *Encyclical "Laudato si'"*. Vatican: LEV (hereafter: LS), 138.

1.2. "Human ecology" in the teaching of John Paul II

It was John Paul II who, as the first Bishop of Rome, placed the ecological question at the centre of papal teaching and gave it a clearly anthropological direction[6]. Already in the encyclical *Redemptor hominis* (1979) he warned that man "often seems to see no other meaning in his natural environment than what serves for immediate use and consumption"[7]. In his Message for the World Day of Peace 1990 – the first papal document devoted entirely to ecology – he linked the environmental crisis with a moral crisis and spoke of responsibility for "all of creation"[8].

The decisive step, however, was the introduction of the term itself. In the encyclical *Centesimus annus* (1991), John Paul II used the expression "human ecology" for the first time, observing that, alongside care for the natural environment, "too little effort is made to safeguard the moral conditions for an authentic 'human ecology'"[9]. What is more, he indicated its primary locus: "The first and fundamental structure for 'human ecology' is the family".[10] Ecology is thereby unambiguously referred to the structures of personal and social life, and not only to the biosphere. This line is completed by the notion of "ecological conversion", coined by the same pope and later taken up by *Laudato si'*[11].

1.3. The "ecology of man" by Benedict XVI

Benedict XVI developed this thought, placing stronger emphasis on the coupling between the treatment of nature and the treatment of the human being. In the encyclical *Caritas in veritate* (2009) he set down a principle that may be regarded as a bridge between natural and anthropological ecology: "The way humanity treats

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[6] Sara Szuman. 2018. Laudato si', mi' Signore, czyli duchowość ekologiczna według papieża Franciszka, 31–38. https://repozytorium.uni.wroc.pl/Content/108788/PDF/004_Szuman_S_Laudato_si_mi_Signore_czyli_duchowosc_ekologiczna.pdf. John Paul II is also the author most frequently cited in *Laudato si'* (16.07.2026).

[7] John Paul II. 1979. *Encyclical "Redemptor hominis"*. Vatican: LEV, 15.

[8] John Paul II. 1990. "Peace with God the Creator, Peace with All of Creation". Message for the XXIII World Day of Peace, 5–7. https://www.vatican.va/content/john-paul-ii/en/messages/peace/documents/hf_jp-ii_mes_19891208_xxiii-world-day-for-peace.html (16.07.2026).

[9] John Paul II. 1991. *Encyclical "Centesimus annus"*. Vatican: LEV (hereafter: CA), 38.

[10] CA 39.

[11] John Paul II. 2001. "God Made Man the Steward of Creation". General Audience of 17 January 2001, 4. https://www.vatican.va/content/john-paul-ii/en/audiences/2001/documents/hf_jp-ii_aud_20010117.html (16.07.2026).

the environment influences the way it treats itself, and vice versa"[12]. He accordingly derives duties towards the environment from duties towards the person, recalling that "the book of nature is one and indivisible", encompassing nature as well as life, the family and social relations[13].

He expressed this most emphatically, however, in his address to the German *Bundestag* in 2011, when he introduced the formula of an "ecology of man". He put it as follows: "there is also an ecology of man. Man too has a nature that he must respect and that he cannot manipulate at will"[14]. Ecology is here extended to human nature itself, understood as given and normative – not as freely constructible. This position will prove particularly important in the further course of this article, when technologies transforming the very relational environment of the human person become the object of analysis.

In the documents of the recent popes presented above it can be seen that the ecological theme concerns not only nature but the whole environment of human life. It flows from the relational core of the concept itself, to which *Laudato si'* explicitly appeals. The "environment" understood in this way – as a network of relationships embracing nature, the person and society – constitutes the conceptual anchor that will make it legitimate, in the following parts, to speak of the "digital environment" shaped by artificial intelligence.

1.4. The environment as understood in *Laudato si'*

Against this background, particular attention should be given to *Laudato si'* and to the term "integral ecology". The encyclical *Laudato si'* is the first papal document of this rank devoted entirely to ecology. Its most original contribution is the category of "integral ecology", which orders the entire fourth chapter of the document[15]. The point of departure is the conviction of universal interdependence: "Since everything is closely interrelated (…), I suggest that we now consider some elements of an integral ecology, one which clearly respects its human and social dimensions"[16]. Ecology thus ceases to be an exclusively natural-scientific discipline and becomes an optic embracing the whole of the human world.

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[12] Benedict XVI. 2009. *Encyclical "Caritas in veritate"*. Vatican: LEV (hereafter: CV), 51.

[13] CV 48–51.

[14] Benedict XVI. 2011. Visit to the Bundestag. Address of His Holiness Benedict XVI, Berlin, 22 September 2011. https://www.vatican.va/content/benedict-xvi/en/speeches/2011/september/documents/hf_ben-xvi_spe_20110922_reichstag-berlin.html (16.07.2026).

[15] Messias. 2024. "From Ecotheology to Ecospirituality in Laudato sí" 6.

[16] LS 137.

At the heart of this approach lies the pope's understanding of the "environment" itself. Francis recalls the classical definition – "Ecology studies the relationship between living organisms and the environment in which they develop" – yet immediately broadens it, stressing that "it cannot be emphasized enough how everything is interconnected"[17]. Consequently, the "environment" is neither the backdrop of human life nor a collection of resources but – as the pope writes – "a relationship existing between nature and the society which lives in it"[18]. This determination has the character of a criterion: if the environment is by definition a network of relationships, then its condition cannot be examined in isolation from the condition of social, cultural and personal relationships.

From this flows the encyclical's central thesis of the indivisibility of the crisis: "We are faced not with two separate crises, one environmental and the other social, but rather with one complex crisis which is both social and environmental"[19]. That is why – as Francis repeats many times – we must "hear both the cry of the earth and the cry of the poor"[20]. Integral ecology unfolds in the encyclical in successive, mutually interconnected dimensions: environmental, economic, social and institutional, cultural, and in the "ecology of daily life"[21]. Its keystone is "human ecology", which – following Benedict XVI – links the environment with "the relationship between human life and the moral law, which is inscribed in our nature"[22]. For this reason Francis formulates a principle methodologically crucial for the present article: "There can be no ecology without an adequate anthropology"[23].

The anthropological foundation of the environment so understood is the biblical vision of the person as constituted by relationships. Human life – we read – "is grounded in three fundamental and closely intertwined relationships: with God, with our neighbour and with the earth itself, and their rupture the encyclical calls sin"[24]. The human being is therefore not an observer of the environment from outside but one of the nodes of the same network of relationships – which means that interpersonal bonds belong to the "environment" in the strict sense. Precisely for this reason the pope calls for "openness to categories which tran-

[17] LS 138.

[18] LS 139.

[19] LS 139.

[20] LS 48–49.

[21] LS 138–155.

[22] LS 155.

[23] LS 118.

[24] LS 66.

scend the language of mathematics and biology, and take us to the heart of what it is to be human"[25].

The environment thus conceived also determines a norm of conduct. Francis reads the biblical call to "subdue the earth" not as a licence for domination but as "a relationship of mutual responsibility between human beings and nature" – a call to care, not to dominion[26]. The measure of a right relationship with the environment is therefore reciprocity and responsibility, not utility or control.

For the further argument these determinations function as a normative criterion. If the "environment" is a network of relationships constituted by the person's three fundamental references, then, first, every factor that transforms these relationships is an ecological question in the strict, integral sense; and second, the criterion for its assessment is whether it fosters the reciprocity of relationships or tears it apart. Significantly, this very diagnosis is already foreshadowed by *Laudato si'* itself, which notes that "real relationships with others (…) tend to be replaced by a type of internet communication"[27]. It is precisely this criterion – the environment understood as a network of relationships, and ecology understood as care for their reciprocity – that will be applied in the following parts to the "digital environment" shaped by artificial intelligence.

2. The new environment of life in the world of artificial intelligence

If the "environment", as understood by *Laudato si'* and by the teaching of the preceding popes, is a network of relationships embracing the whole context of human life, we may now describe the environment in which the human person has come to live since the popularisation of artificial intelligence in 2022[28]. This change is taking place on two levels: first, on the material level – AI places a real burden on the natural environment; and second, on the relational level – AI transforms the network of interpersonal bonds.

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[25] LS 11.

[26] LS 67; Todd A. Salzman, Michael G. Lawler. 2024. "Climate Change and Its Effects: Theological Reflections". Studia Teologiczno-Historyczne Śląska Opolskiego 44 (2): 25–26.

[27] LS 47.

[28] OpenAI. 2022. Introducing ChatGPT.

2.1. The material footprint of AI: the energy and water of data centres

Contrary to the metaphor of the "cloud", artificial intelligence is not a disembodied phenomenon. Its operation rests on data centres, which in 2024 accounted for about 1.5% of global electricity consumption (approx. 415 TWh); forecasts predict that this figure will nearly double – to about 945 TWh in 2030 – with AI as the main driver of the growth. A single AI data centre consumes as much electricity as about one hundred thousand households, and the largest of those currently under construction will consume twenty times more[29].

To the energy account must be added the consumption of water. It is estimated that the training of the GPT-3 model alone may have evaporated about 700,000 litres of fresh water, and every short exchange with a chatbot consumes further quantities; global water withdrawal for the needs of AI may reach 4.2–6.6 billion cubic metres in 2027[30]. The material footprint also includes electronic waste and the extraction of rare metals, and its weight falls disproportionately on water-stressed regions and poorer communities[31].

This dimension of AI fits precisely into the diagnosis that *Laudato si'* sets out in paragraphs 20–22. Francis writes there that "the earth, our home, is beginning to look more and more like an immense pile of filth"[32], and links the problem of waste with the "throwaway culture", pointing out that the industrial system has still not "managed to adopt a circular model of production" which would imitate the cycle of natural ecosystems[33]. Artificial intelligence adds a new layer of consumption and waste to this unclosed cycle. At the same time, it confirms the observation of paragraph 20 that technology linked to financial interests, "presented as the only way of solving these problems, in fact proves incapable of seeing the mysterious network of relations between things and so sometimes solves one problem only to create others"[34]. In this way it becomes apparent that AI is an ecological question already in the material sense, and not merely metaphorically.

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[29] International Energy Agency. 2025. *Energy and AI*.

[30] Pengfei Li et al. 2025. "Making AI Less 'Thirsty': Uncovering and Addressing the Secret Waa ter Footprint of AI Models". Communications of the ACM (ahead of print).

[31] Paola Tubaro. 2025. The Dual Footprint of Artificial Intelligence: Environmental and Social Impacts across the Globe. arXiv:2512.01456. https://doi.org/10.48550/arXiv.2512.01456. preprint (16.07.2026).

[32] LS 20–22.

[33] LS 22.

[34] LS 20.

2.2. "AI companions" and chatbots: a description of the phenomenon

The clearest manifestation of AI's impact on the relational environment, however, are the so-called AI companions: applications based on large language models (for example Character.AI, Replika, Nomi or the Chinese XingYe), designed expressly to provide a quasi-human presence. Their task is to simulate friendship, emotional support and, frequently, a romantic relationship. The user personalises the appearance, age, sex and character traits of such a companion, shaping a relational partner "on demand"[35].

The mechanism of influence consists in the imitation of human interaction. Research shows that highly person-centred messages increase the user's sense of emotional validation and warmth[36]. The core of the design is therefore the simulation of reciprocity. This phenomenon has been captured in the category of "pseudo-intimacy", that is, "a simulated experience of mutual emotional connection (…) in which the user perceives reciprocity despite the absence of genuine empathic concern"[37]; structurally it is a parasocial relationship – a one-sided attachment based on the illusion of requital.

AI companions are, moreover, not neutral tools but products optimised for engagement. Critical analyses describe this as *cruel companionship*: a promise of closeness that "structurally foreclose[s] the possibility of genuinely reciprocal relationships" and commodifies intimacy[38], and as a "gamification of intimacy", in which affection is made efficient, measurable and transactional[39]. The extreme case of this logic are griefbots and deathbots – applications simulating deceased persons, which extend the principle of substituting presence as far as the relationship with the dead[40].

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[35] Xiaoran Sun et al. 2026. "AI Companions and Adolescent Social Relationships: Benefits, Risks, and Bidirectional Influences". Child Development Perspectives 20 (2): 91–98.

[36] Kelly Merrill et al. 2025. "Artificial Intelligence Chatbots as a Source of Virtual Social Supp port: Implications for Loneliness and Anxiety Management". Annals of the New York Academy of Sciences 1549 (1): 148–159.

[37] Jobi Babu et al. 2025. "Emotional AI and the Rise of Pseudo-Intimacy: Are We Trading Auu thenticity for Algorithmic Affection?". Frontiers in Psychology 16: 1679324.

[38] James Muldoon, Jul Jeonghyun Parke. 2025. "Cruel Companionship: How AI Companions Exx ploit Loneliness and Commodify Intimacy". New Media & Society (online first).

[39] Liang Ge, Tingting Hu. 2025. "Gamifying Intimacy: AI-Driven Affective Engagement and Huu man–Virtual Human Relationships". Media, Culture & Society 47 (6): 1265–1278.

[40] Tomasz Hollanek, Katarzyna Nowaczyk-Basińska. 2024. "Griefbots, Deadbots, Postmortem Avatars: On Responsible Applications of Generative AI in the Digital Afterlife Industry". Philosophy & Technology 37 (2): 63; Bartłomiej Kempe. 2025. "Nieśmiertelna prawie-osoba. Analiza zjawiska wykorzystania sztucznej inteligencji w tworzeniu awatarów osób zmarłych oraz w przeżywaniu żałoby z perspektywy antropologii katolickiej". Family Forum 15: 145–163.

2.3. Digital loneliness as a new relational environment

The backdrop to the explosion of AI companions is a real problem: loneliness, which affects more than a quarter of older adults worldwide and has come to be called a threat to public health[41]. Relational applications are offered as a remedy, and the empirical data partly bear this out. A meta-analysis of nineteen studies (N = 1083) showed that social robots significantly reduce the feeling of loneliness among older adults, especially in care facilities[42]. Experimental results likewise indicate a real, though moderate, loneliness-alleviating effect[43]. With a measure of caution one may therefore assume the positive benefits of such solutions, and they should not be disregarded in the responses proposed further on.

The picture, however, is ambivalent. According to the "displacement hypothesis", the intensive use of AI companions threatens to displace the time devoted to interpersonal relationships, to create psychological dependence and to foster unrealistic expectations of other people[44]. The analysis of the concept of "emotional solipsism" reveals a deeper mechanism: a relationship with an AI that "never assert[s] boundaries or demand[s] reciprocity" creates "a closed feedback loop where the self becomes both speaker and audience"[45]. The remedy for loneliness may thus deepen the very isolation it was meant to cure – an interaction that affirms but never contests.

What emerges from these data is a new relational environment that may be called "digital loneliness": a state of being constantly "in company" without being really met. The relationship is here available on demand, undemanding and free of risk, yet at the same time devoid of reciprocity; research suggests, moreover, that it transfers its patterns onto expectations towards relationships with people[46]. The situation thus described demands an assessment in the light of the criterion established earlier, namely the environment as a network of mutual relationships. Is a relationship with a being incapable of reciprocity still a relationship in the prop-

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[41] Fahimeh Mehrabi, Akram Ghezelbash. 2025. "Wired for Companionship: A Meta-Analysis on Social Robots Filling the Void of Loneliness in Later Life". The Gerontologist 65 (12): gnaf219.

[42] Mehrabi, Ghezelbash. 2025. "Wired for Companionship".

[43] Julian De Freitas et al. 2026. "AI Companions Reduce Loneliness". Journal of Consumer Research 52 (6): 1126–1148.

[44] Sun et al. 2026. "AI Companions and Adolescent Social Relationships".

[45] Babu et al. 2025. "Emotional AI and the Rise of Pseudo-Intimacy".

[46] Yutong Zhang et al. 2026. The Rise of AI Companions: Interaction with AI Companions and Psychological Well-Being. arXiv:2506.12605. https://doi.org/10.48550/arXiv.2506.12605 preprint (16.07.2026).

er sense, or rather its replacement? This question leads directly to anthropological determinations and to the category of the culture of replacement, which is central to this article.

3. The relational person and AI: a theological-anthropological criterion

The description of the situation presented above now demands an assessment. The question that organises this part is: how can the human person living in the environment described care for the ecology of relationships? The answer requires the confrontation of two orders: on the one hand, Christian personalism; on the other, simulated presence and the relationship with an artefact. On this basis there will then be constructed an analysis of the ecology of relationships as care for the environment of human life, together with the category of the culture of replacement, which is central to this article.

3.1. Imago Dei and "simulated personhood"

The point of departure of Christian anthropology is the truth that the human being was created "in the image of God" (Gen 1:27). This image is not primarily a technical or cognitive capacity but a capacity for relationship: since the prototype is the Triune God, who is a communion of Persons, to be the image means to exist towards relationship. Karol Wojtyła showed that the person fulfils himself through action and through participation in the community of persons[47], and the Second Vatican Council expressed this in the formula that man "cannot fully find himself except through a sincere gift of himself"[48]. Relationality is therefore not an appendage to humanity but its constitution.

To the person so understood applies Martin Buber's classical dialogical category: the "I–Thou" relation is by its essence a reference to a personal "Thou" capable of really responding, in contrast to the "I–It" attitude, in which the other becomes an object of use[49]. It is precisely at this point that the difference with respect to artificial intelligence comes to light. The being with which the user of an AI companion "converses" is not a person, but what theology has termed "simulated per-

[47] Karol Wojtyła. 2021. *Person and Act and Related Essays*. Trans. Grzegorz Ignatik. Washington, D.C.: The Catholic University of America Press.

[48] Second Vatican Council. 1965. *Pastoral Constitution on the Church in the Modern World "Gaudium et spes"*. Vatican: LEV, 24.

[49] Martin Buber. 1970. *I and Thou*. Trans. Walter Kaufmann. New York: Charles Scribner's Sons.

sonhood". Human personhood is rooted in relationality and, as Yanto P. Hermanto demonstrates, it "cannot be reduced" to cognitive functions or to digital simulation[50]. Hilary N. Okeke's formula captures this aptly: whereas the human being is *imago Dei*, artificial intelligence is at most *imago hominis* – an "image of man", a product "subject to inherent limitations", incapable of attaining the metaphysical level proper to the person[51].

Can one then speak of a "relationship" with an artefact at all? The answer is not a simple negation. Michael S. Burdett, drawing on Buber, Marcel and Heidegger, argues that a certain limited "saying 'You'" to things can be legitimate – as an objection to the reduction of the world to pure utility. In this sense an attitude of respect towards creation converges with the care to which *Laudato si'* calls. Burdett, however, indicates a clear boundary: the "I–You" reference to an artefact becomes destructive precisely when it begins to displace real relationships with people[52]. One may therefore state more precisely: a relationship with an artefact is at most analogical and by its essence non-symmetrical. An artefact can be an object of care; it cannot, however, be a personal "Thou" that constitutes communion. When the simulation takes the place of that "Thou", we are no longer dealing with a relationship in the proper sense but with its replacement. This is confirmed also by the teaching of the Church, which reminds us that AI is to remain a tool and not a substitute for the person[53].

3.2. The ecology of relationships and the throwaway culture

From the above follows the criterion of assessment: the measure of a relationship is reciprocity. A relationship in the proper sense presupposes two subjects capable of mutual self-giving; where one side merely mirrors the expectations of the other, reciprocity vanishes, and with it real relationality[54]. This criterion makes it

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[50] Yanto P. Hermanto. 2025. "Imago Dei and Artificial Intelligence: A Theological Inquiry into Personhood and Human Ontological Boundaries". HTS Teologiese Studies/Theological Studies 81 (1): a10877.

[51] Hilary Ndu Okeke. 2025. "Towards a Socio-Theological Evaluation of Artificial Intelligence". Religions 16 (11): 1372.

[52] Michael S. Burdett. 2020. "Personhood and Creation in an Age of Robots and AI: Can We Say 'You' to Artifacts?". Zygon 55 (2): 347–360.

[53] Leo XIV. 2026. *Encyclical "Magnifica humanitas"*. Vatican: LEV (hereafter: MH); Dicastery for the Doctrine of the Faith, Dicastery for Culture and Education. 2025. *"Antiqua et nova". Note on the Relationship Between Artificial Intelligence and Human Intelligence*. Vatican: LEV, 112.

[54] Buber. 1970. *I and Thou*; Karol Wojtyła. 1993. *Love and Responsibility*. Trans. H.T. Willetts. San Francisco: Ignatius Press.

possible to introduce the notion of an "ecology of relationships". For if the "environment" is a network of relationships, then care for the quality and reciprocity of relationships is ecology in the strict, and not the figurative, sense. The "ecology of relationships" thus constitutes the hinge that joins integral ecology to the analysis of artificial intelligence: the same criterion by which care for nature is measured applies to care for interpersonal bonds.

In the light of this criterion the category of the throwaway culture, central to *Laudato si'*, can be read anew. Francis observes that the throwaway culture "affects the excluded just as it quickly reduces things to rubbish"[55]: the same attitude that produces material waste commands the rejection of persons deemed superfluous. The throwaway culture is thus at bottom a crisis of relationships: an incapacity to accept the other as he or she is.

3.3. The culture of replacement

Artificial intelligence intervening in relationships, however, introduces a qualitatively new form of this crisis, which I propose to call the *culture of replacement*. The throwaway culture stops at the removal of what is unwanted; the culture of replacement goes a step further – in the place of the rejected person it produces a substitute tailored to one's own criteria. It is no longer merely that we reject the other person; the point is that we create a surrogate of him or her, available on demand and devoid of the resistance that a real person offers.

This mechanism leads to an impoverishment of the very capacity to love. For love matures when it accepts the other together with his or her imperfection; the encounter with a "Thou" that cannot be reduced to my expectations transforms and "enlarges" the heart. By rejecting the imperfection of the other and creating a fitted substitute, the human being avoids this transformation. What follows is a closing of oneself within one's own criteria, an elevation of oneself above others, and a treatment of the person as an exchangeable object. Where a real relationship disappoints, it can simply be discarded and replaced with a being that we shape "to our own liking"[56]. Paradoxically, this manoeuvre does not cure loneliness but deepens it, as the data on "emotional solipsism" from the previous part confirm[57]. At the same time it is a source of profit: the companies offering AI companions commodi-

[55] LS 22.

[56] Wojtyła. 1993. *Love and Responsibility*: the person may never be treated as a means to an end, and the only response fully adequate to the person is love; the instrumental "replacement" of a person impoverishes both the relationship and the loving subject.

[57] Sun et al. 2026. "AI Companions and Adolescent Social Relationships".

fy intimacy and derive income from human loneliness[58]. For this reason the Magisterium reminds us that technology "is never neutral", and that the protection of the human person remains the overriding criterion also – and perhaps above all – with regard to AI[59].

3.4. The civilisation of love and ecological conversion

The Church's concrete answer to this situation is the "civilisation of love" – a notion introduced by Paul VI and developed by John Paul II as the antithesis of the "civilisation of death"[60]. Applied to the relational environment, it leads to an "ecological conversion" understood as a conversion in the sphere of relationships[61]. Designers of systems and believers alike – and ultimately all people – are called to "convert ecologically", that is, to change their way of thinking about what care for the environment of human life is. This conversion has two practical edges. First, it demands real care for lonely people: the creation of real forms of support and community. Second, it demands the responsible design of technology, so that it supports the human person without creating dependence at the cost of real relationships. At the root of this postulate lies the conviction that taking up the labour of a real relationship – with all its imperfection – develops the human being more than any frictionlessly fitted relationship could. For taking responsibility for the other is the supreme key to the realisation of humanity: man "finds himself" precisely as a sincere gift to himself.

These solutions ultimately reveal the internal coherence of integral ecology. By limiting the excessive use of AI for the sake of real bonds, one reduces at the same time the material burden on the natural environment. Here true ecology as a network of interconnections becomes visible: improvement in one of its dimensions – in interpersonal relationships – translates into improvement in others, up to and including care for our common home. "Everything is interconnected"[62], and care for the reciprocity of relationships turns out to be at the same time care for the person, for society and for nature.

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[58] Muldoon, Parke. 2025. "Cruel Companionship".

[59] MH 9.

[60] John Paul II. 1995. *Encyclical "Evangelium vitae"*. Vatican: LEV, 27.

[61] LS 216–221.

[62] LS 16, 240.

4. Conclusions

The aim of this article was to demonstrate that the spread of artificial intelligence constitutes an ecological challenge in the integral sense – since it concerns not only the natural environment but the whole environment of human life – and to formulate a theological response to this challenge. The introduction posed the problem: the encyclical *Laudato si'*, promulgated before general access to AI, calls for a new reading in a situation in which this technology is transforming nature and the network of human relationships alike.

To achieve this aim it was necessary, in turn: to specify the concept of ecology and draw out its relational core; to describe the new environment of life shaped by AI – its material footprint as well as the phenomenon of "AI companions" and digital loneliness; and finally, to subject this situation to a theological-anthropological assessment and to indicate a response. The "see – judge – act" schema employed made it possible to combine empirical data with normative reflection.

The principal difficulty lay in the ambivalence of the empirical material: the same applications which in some studies really alleviate loneliness, in others deepen it. This required caution in drawing conclusions and a consistent distinction between description and assessment. Despite this ambivalence the aim was achieved, because the criterion of assessment was not therapeutic effectiveness, but the reciprocity of the relationship referred to the person as *imago Dei*.

The verification of the hypotheses leads to convergent conclusions. The thesis (H1) that ecology – in the core of the concept and in the teaching of the Church – inseparably embraces nature and the relational-anthropological environment of the human person was confirmed. The thesis (H2) that artificial intelligence produces a qualitatively different environment of life, burdening nature and transforming relationships, was likewise confirmed. Confirmation was also found for the hypothesis (H3) that the phenomenon of AI companions is aptly described by the category of the culture of replacement, which constitutes a radicalisation of the throwaway culture and in which a fitted surrogate is put in the place of the person. Finally, the last thesis (H4) held what determines the value of a relationship is reciprocity, and a relationship with AI, being structurally non-reciprocal, cannot replace an interpersonal relationship, although it really displaces it. The whole is bound together by the conclusion of the internal coherence of integral ecology: care for the reciprocity of relationships is at the same time care for the person, for society and for nature, and the Church's response remains the civilisation of love leading to an ecological conversion applied to relationships.

This article does not exhaust the subject, nor was that its intention. It constitutes, rather, a preliminary theological ordering of the field and opens several directions for further research: a deeper, interdisciplinary empirical verification of the relationship between the use of AI and the quality of bonds and fertility; the development of the "ecology of relationships" in dialogue with the ethics of technology design; the reception of the most recent documents of the Magisterium on AI (*Antiqua et nova*, *Magnifica humanitas*); and the continuation of the analyses of digital "life after life" and of deathbots as the limit case of the culture of replacement. For if – as Francis reminded us – "everything is interconnected", then the mending of even a single thread of this network, care for a real and reciprocal relationship, acts upon the whole of our common home, which is ultimately God's gift to humanity.

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