NOTE

THE HUMANISTIC DIMENSIONS OF SCIENTIFIC RESEARCH

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Abstract: This article examines Giuseppe Tanzella-Nitti's view on the humanistic dimensions of scientific research, central to his interdisciplinary work over the past two decades. Drawing from his published and unpublished writings and his mentorship in research, the article outlines how Tanzella-Nitti integrates scientific inquiry with humanistic values to bridge theology, philosophy, and science. His approach unifies the epistemological, ethical, existential, and social dimensions of research, suggesting that a humanistic perspective on science not only enhances theological discourse but also contributes to the Church's evangelization efforts within contemporary scientific culture.

Keywords: Scientific Humanism, Theology and Science, Humanistic Dimensions, Interdisciplinarity, Giuseppe Tanzella-Nitti.

Riassunto: Questo articolo prende in esame la visione di Giuseppe Tanzella-Nitti sulla dimensione umanistica della ricerca scientifica, tema centrale nel suo lavoro interdisciplinare degli ultimi due decenni. Attingendo ai suoi scritti, pubblicati e non, e alla sua attività di mentore nella ricerca, l'articolo mostra come Tanzella-Nitti integri l'indagine scientifica con i valori umanistici per creare un ponte tra teologia, filosofia e scienza. Il suo approccio unifica le dimensioni epistemologiche, etiche, esistenziali e sociali della ricerca, indicando che una prospettiva umanistica sulla scienza non solo può arricchire il discorso teologico, ma anche contribuire agli sforzi di evangelizzazione della Chiesa all'interno della cultura scientifica contemporanea.

Parole chiave: Umanesimo scientifico, Teologia e scienza, Dimensioni umanistiche, Interdisciplinarità, Giuseppe Tanzella-Nitti.

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I. Introduction: A Unifying Thread in the Theological and Interdisciplinary Work of Giuseppe Tanzella-Nitti

Discussing the humanistic dimensions of scientific research—what we might call a "scientific humanism"—may come as a surprise to those in the humanities, and could even unsettle many scientists, especially when they hear humanities scholars speak about the relevance of their work. To avoid misunderstandings and to properly frame the over two decades of work by Giuseppe Tanzella-Nitti in this context, it is necessary to establish a common ground for our discussion.

We must begin by acknowledging that any conversation about the humanistic dimensions of science must reference the division between the two cultures—scientific and humanistic—that Charles Percy Snow famously diagnosed.[1] This separation has led to the common misconception that only empirical sciences (such as mathematics, physics, and natural sciences) provide objective, true, and indisputable knowledge—the epitome of what is considered "scientific." On the other hand, the humanities are often seen as the realm of subjectivity, where knowledge is considered provisional and debatable, thus rendering them "non-sciences" by contrast. According to this view, the only way for the humanities to be considered scientific would be for their object of study or epistemological framework to be mathematizable or empirically formulated, or else the *credibility* of their findings—or even the disciplines themselves—would be at risk.

Undoubtedly, this issue is highly complex because it is not science itself that engages in dialogue, but scientists. As the famous physicist Werner Heisenberg rightly remarked «Science is made by men, a self-evident fact that is far too often forgotten».[2] Mathematics, physics, and biology do not concern themselves with humanistic relevance; rather, it is the mathemati-

[1] The expression "two cultures" was coined by the British scientist and novelist C.P. Snow, *The Two Cultures* [1959], Cambridge University Press, London 2001.

[2] W. Heisenberg, *Physics and Beyond: Encounters and Conversations*, Harper & Row, New York 1971, *vii*.

cians, physicists, and biologists—as much as the theologians and philosophers—who should raise such questions. If researchers in any field avoid these questions, they may eventually find themselves wondering why they are engaging in scientific work at all. This meta-reflective dimension is crucial for the advancement of human knowledge because intellectual discovery is a personal endeavor, directed toward human beings as its ultimate recipients and beneficiaries, not merely toward the knowledge itself, which is a product of human labor: life scientists develop vaccines so that people do not die; engineers invent airplanes so that people can fly; writers write and artists make art for people to read their writings and see art pieces. Viewed in this light, the work of scientists is just as vital as that of sculptors, poets, literary scholars, theologians, or any other type of researcher.

Giuseppe Tanzella-Nitti's work embraces the challenge posed by natural sciences to theology and philosophy, while also recognizing that the rationalities of various fields of science interact in a "counterpoint" relationship. Much like the distinct voices in polyphonic music, this counterpoint not only enhances each individual field but also allows all the others to progress organically, expressing the unity of the scientist's personal dimensions in a "synthesized knowledge." Pope John Paul II also spoke of the "humanistic dimensions of science" in his address to the Pontifical Academy of Sciences on November 13, 2000. In this speech, the Pope highlighted the «ethical responsibility of scientific research because of its consequences for humanity», noting that this concern has been a constant—though not exclusive—focus of the Church's Magisterium, particularly during the second half of the 20th century. He went on to emphasize that the term "scientific humanism" underscores the importance of an integrated and holistic culture, one capable of bridging the gap between the humanistic and experimental-scientific disciplines. While this separation may be advantageous during the analytical and methodological phases of research, he argued, it becomes less justified and even potentially dangerous during the synthetic phase, when researchers begin to reflect on the deeper motivations behind their work and the "human" consequences of the knowledge they have gained, both on a personal and collective, social level.[3]

I recall the day when Giuseppe Tanzella-Nitti first spoke to me about "scientific humanism." I had just completed my doctoral studies

[3] Cfr. John Paul II, *Address to the Pontifical Academy of Sciences*, November 13, 2000, n. 2.

in economics and had begun my career as a researcher when I joined the group of young scholars at the SISRI School, which had started a year earlier in 2013.[4] Tanzella-Nitti, the director, had the habit of meeting with each student individually to share some of the core ideas behind the initiative. One such idea was that interdisciplinary research requires a unified vision of knowledge—a vision rooted in the ancient biblical tradition. From this principle arose an interesting corollary: each person's field of specialization is, at a deeper level, connected to all other fields, and this connection must be "experienced" in the life of the scientist. It is not merely something to be studied, but something to be lived. Thus, beyond the acquisition of new knowledge, the experience of research is also an intellectual pursuit where science is not only an expression or a product but a lived experience for the researcher. I was given reading recommendations, which I eagerly pursued, recognizing myself in what I read.[5] Another idea I cherished when I later joined the seminary was the reminder that formation was not about filling minds like vessels but kindling them like torches.[6]

[4] SISRI is an Italian acronym which stands for International Advanced School for Interdisciplinary Research. For an account of the intellectual project underlying these initiatives, cfr. G. Tanzella-Nitti, *Interdisciplinarità e unità del sapere. L'esperienza di recenti progetti di formazione e di didattica*, «Dynamis. Rivista di filosofia e pratiche educative» 5 (2023) 81-95; Idem, *Dialogue Between Theology and Science: Present Challenges and Future Perspectives*, «Religions» 15 (2024) 1304, 1-22; Idem, *The Role of Theology in a University Curriculum*, «Church, Communication and Culture» 9 (2024) 361-380. These three synthesis articles form a cohesive "trilogy" about the role of interdisciplinarity in the work of scientists, philosophers, and theologians.

[5] Cfr. Thomas Aquinas, *Summa Theologiae*, I-I, q. 1.; A.D. Sertillanges, *The Intellectual Life: Its Spirit, Conditions, Methods* [1921], Catholic University of America Press, Washington 1992; J. Maritain, *The Degrees of Knowledge or Distinguish to Unite* [1937], Charles Scribner's Sons, New York 1959; Idem, *Integral Humanism: Temporal and Spiritual Problems of a New Christendom*, Cluny Publishers, Providence 2024; E. Cantore, *Scientific Man: The Humanistic Significance of Science*, ISH Publications, New York 1977.

[6] The idea originates from an often-misattributed quote found in the Greek philosopher and historian Plutarch's essay *On Listening to Lectures* in *Moralia*, sect. 48.c: "For the mind does not require filling like a bottle, but rather, like wood, it only requires kindling to create in it an impulse to think independently and an ardent desire for the truth" (Οὐ γὰρ ὡς ἀγγεῖον ὁ νοῦς ἀποπληρώσεως ἀλλ'ὑπεκκαύματος μόνον ὥσπερ ὕλη δεῖται, ὁρμὴν ἐμποιοῦντος εὑρετικὴν καὶ ὄρεξιν ἐπὶ τὴν ἀλήθειαν); Plutarch,

Many more conversations followed in the years after that first one, deepening our relationship from that of a student to a fellow researcher. My progressive involvement in the SISRI School and the DISF Research Center enabled me to see firsthand that "scientific humanism" was not only an ideal guiding generations of scientists, but also carried a profound sense of mission for their work. Through the activities of the School and the DISF Research Center, we were encouraged to cultivate an "experience of foundations" in our research, grounded in a rigorous engagement with primary sources and the testimonies of those who had conducted scientific work—and were willing to share it with younger researchers. The ideal of scientific humanism requires that we take our own scientific work with utmost seriousness, which in turn demands a commitment to personal growth. This is why, from the very first editions of the Permanent Seminar, the emphasis was placed on the intellectual habits required in research.[7]

Above all, Giuseppe Tanzella-Nitti's vision of scientific humanism was not just a theoretical ideal to be studied through the lives of the greatest intellectuals in history, but a foundational aspect of the mission of the scholar—a responsibility toward society. In simple terms, it was something required of us, something we were called to put into practice in our own daily lives.

II. A "Lived" Interdisciplinarity: From the Philosophical Search for Truth to the "Scientific Experience of Foundations"

In Giuseppe Tanzella-Nitti's theological and interdisciplinary work, the reflection on the humanistic dimensions of research took on a clearer and more defined shape beginning in 2008. However, these reflections were already present in his earlier work. His experience as both a scientist and a priest led him to contemplate the vocational and missionary

Moralia, in F.C. Babbitt (transl.), *Plutarch's Moralia in Sixteen Volumes, vol. 1 (1A-86A)*, Loeb Classical Library, Harvard University Press, Cambridge 1927, 257-259.

[7] The 2013-2016 cycle of the School, focused on "Intellectual Work and Research Methodology," included a first year (2013-2014) dedicated to the theme of "intellectual habits." Topics discussed included research as listening, the intellectual life as asceticism, intellectual knowledge and existential experience, as well as sapiential knowledge and the unity of knowledge.

nature of intellectual labor—a theme not new to philosophy and theology and central to the spirituality of Opus Dei, particularly regarding work. This theme also echoes with the teachings of the Second Vatican Council and, with specific reference to intellectual work, with the magisterium of Pope John Paul II. In this spirituality, the intellectual and Christian life are not seen as separate, but rather as interconnected facets of a unified existence, often referred to as a "unity of life," a concept articulated by Josemaría Escrivá de Balaguer.[8] For a scientist, this unity of life entails a responsibility toward all people and society at large. For the Christian, work is a vocation; for the priest, it immediately takes on a "ministerial" dimension. For both, echoing the ideas of Teilhard de Chardin human activity, viewed as an offering each person can make of the world to God, finds its essential origin and ultimate fulfillment in the Eucharist.[9]

Tanzella-Nitti's understanding of this vocational dimension matured through his meditation of the writings of various influential intellectuals, both from the scientific, philosophical, theological and spiritual realms. He often referred to these individuals as the "patrons" of his intellectual work and his efforts to evangelize within scientific culture. These patrons include major figures from the Catholic tradition, such as Augustine of Hippo, Hildegard of Bingen, Albert the Great (to whom Tanzella-Nitti dedicated a nine-year cycle seminars), Thomas Aquinas, Nicholas Steno, John Henry Newman, Francesco Faà di Bruno, Edith Stein, and Pope John Paul II. Additionally, Tanzella-Nitti found inspiration in Escrivá's charism and writings. He also drew from biblical figures such as Joseph of Nazareth—the humble carpenter and earthly father of Jesus Christ, "the carpenter's son" (*Mt* 13:55)—and the Magi, or the Three Wise Men (cfr. *Mt* 2:1–12). He often highlighted these figures as

[8] Cfr. A. Llano, *Universidad y unidad de vida según el Beato Josemaría Escrivá*, «Romana» 30 (2000) 112-125; G. Tanzella-Nitti, *Passione per la verità e responsabilità del sapere. Un'idea di università nel magistero di Giovanni Paolo II*, Piemme, Casale Monferrato 1998.

[9] I recently explored the Eucharistic dimension of human activity interpreted as an exercise of the common priesthood. This work, done with two liturgist colleagues, appeared in this Journal and focused on Teilhard de Chardin's writings. Cfr. C. Tagliapietra, G. Zaccaria, J.L. Gutiérrez, *Cosmo, Eucaristia e attività umana. Riflessioni teologiche a partire da "La Messa sul Mondo" di Teilhard de Chardin*, «Annales Theologici» 38 (2024) 177-197.

exemplars for scientists, portraying them as sincere and tireless seekers of truth.

The engagement with the humanistic dimensions of science took a more concrete form in the early 2000s, following his encounter with Father Enrico Cantore, a Jesuit priest and author of *Atomic Order* and *Scientific Man* (1977).[10] Cantore had already developed a Christian interpretation of scientific humanism based on the biblical concept of Wisdom and the role of the scientist as a seeker of truth, in dialogue with the leading scientists of his time.[11] Their meeting, which took place at Cantore's residence in Oradell, New Jersey, marked the beginning of a fruitful collaboration. In his memoirs, Cantore described their encounter, highlighting Tanzella-Nitti's doctrinal solidity, personal fidelity to Christ and the Church, and his commitment to spreading sapiential-scientific humanism within the Church. Tanzella-Nitti presented Cantore with several projects aimed at fostering the integration of scientific humanism into the Church, including initiatives to train young Catholic scientists and to help priests understand the challenges and opportunities posed by science to human dignity.[12]

His thought first gained explicit expression in a 2005 essay, published in a collective volume, where he explored the personalist dimension of truth and knowledge.[13] Unlike Cantore, who approached the ideal of scientific humanism through the tradition of Wisdom Christology and the experience of scientists, Tanzella-Nitti pursued this ideal through Thomistic realism and philosophical and theological personalism. These

[10] Cfr. E. Cantore, *Scientific Man*; Idem, *The Humanistic Significance of Science*, in G. Tanzella-Nitti, I. Colagè, A. Strumia (eds.), *International Encyclopedia of Religion and Science* (www.inters.org), 2018, DOI: 10.17421/2037-2329-2018-EC-1.

[11] I am currently editing the fascinating correspondence between Enrico Cantore and Werner Heisenberg on the topic of scientific humanism, following my recent discovery at the Max Planck Institute in Berlin of extensive correspondence between the Jesuit philosopher and the renowned physicist and Nobel laureate. The manuscript, tentatively titled *Pursuing Scientific Humanism: Letters Between Werner Heisenberg and Enrico Cantore*, will be published soon.

[12] Cfr. E. Cantore, *A Report on my Apostolate*, Oradell, New Jersey-USA April 2006, *unpublished*.

[13] Cfr. G. Tanzella-Nitti, *La dimensione personalista della verità e il sapere scientifico*, in V. Possenti (ed.), *Ragione e Verità*, Armando, Roma 2005, 101-121.

frameworks had already enabled him to theologically distinguish between two dimensions of the concept of *logos*: *logos ut ratio*, the principle of rationality embedded in nature and discovered through the natural sciences (with figures such as James Clerk Maxwell, Max Planck, Louis de Broglie, Albert Einstein, Paul Davies, John Barrow, Roger Penrose, and Richard Feynman as examples), and *logos ut verbum*, the personal word addressed to humanity through creation and, in a certain sense, perceptible in the scientific study of nature (inspired by the theologies of Romano Guardini and René Latourelle, with scientific figures such as Werner Heisenberg, Henri Poincaré, Max von Laue, and others). Tanzella-Nitti argued that truth has an inherently personalist dimension, and that the search for scientific truth is similarly personal. He highlighted the use of analogy, symbolic language, and aesthetic criteria—such as symmetry and elegance—as part of the empirical rationality of science. This contextual dimension of scientific knowledge, as inspired by the work of Michael Polanyi, Thomas F. Torrance, and Charles Taylor's epistemological proposals, formed the basis of Tanzella-Nitti's exploration of the personal dimension of technical-scientific knowledge.[14]

A comprehensive articulation of his views on the humanistic dimensions of scientific research can be found in his presentation to the DISF Working Group in October 2009.[15] In this presentation, he outlined four key dimensions: (1) the *epistemological-gnoseological dimension*, which considers non-formal knowledge in understanding scientific objects, such as heuristics, intuition, analogy, and existential-religious preconceptions; (2) the *ethical-moral dimension*, addressing the ethical questions raised by scientific knowledge, such as the relationship between humans and machines; (3) the *aesthetic-existential dimension*, viewing science as a factor in human dignity; and (4) the *humanistic-social dimension*, recognizing that scientific knowledge is a driver of progress and linked to the scientist's responsibility toward society.

[14] Cfr. IDEM, *La persona, soggetto dell'impresa tecnico-scientifica*, «Paradoxa» 3 (2009) 96-109.

[15] IDEM, *Le dimensioni umanistiche della ricerca scientifica: una visione di insieme*, lecture delivered to the Permanent Seminar of DISF Working Group, Rome, October 31, 2009, Document 5/2009, later published as IDEM, *Le dimensioni umanistiche dell'attività tecnico-scientifica*, in *Scienze, filosofia e teologia. Avvio al lavoro interdisciplinare*, a cura di A. Strumia, G. Tanzella-Nitti, Edusc, Roma 2014, 45-72.

While, in our view, the first two dimensions are already well investigated, the second two are more rarely studied, particularly in the philosophy and theology of human activity and constitute an element of originality in Tanzella-Nitti's work. Concerning the *aesthetic-existential dimension*, in his work, he emphasized that researchers often find themselves at the heart of profound existential experiences—experiences that evoke emotions, awe, and reverence in the face of nature, its intrinsic order, and its laws. Many scientists, when reflecting on their research and their encounter with reality, speak of "mystery," "miracle," "perception of foundations," and even an "encounter with the Absolute." Such experiences often provide the motivation and passion necessary to sustain their dedication, especially during the more arduous phases of research. This "scientific experience of foundations," as articulated by figures like Planck, Einstein, and Heisenberg, sees nature as a rational and intelligible otherness, endowed with formal specificities that science discovers rather than imposes.

Taking the previously explained distinction between *Logos ut ratio* and *Logos ut Verbum*, Tanzella-Nitti explains that this experience arises from the observation of nature and reflects the idea that the universe, as the work of a personal Creator (*Logos*), manifests a deep rationality (*ratio*) and contains a call to the Word (*Verbum*). The harmony between the human capacity to understand nature and the intelligibility of the created world points to a congruence that goes beyond mere physical phenomena. This experience is metaphysical in nature, meaning it is the scientist, rather than science itself, who undergoes it. It resembles a religious phenomenology, where the subject perceives the dependence oh phenomena on a mystery that transcends them and recognizes themselves as part of it. This sense of the sacred, while more evident in basic research, also extends to the technical sphere, where the efficiency and beauty of human craftsmanship reflect a higher rationality, akin to the spirit of artistic creation. Ultimately, recognizing creation as the effect of a personal Word is an act that involves the freedom of the subject. Only in freedom can one be open to the possibility that the ultimate mystery of Being resides in another Person, the Creator, who is not only the source of truth but also the meaning and purpose of all things. This experience can be either embraced or rejected, as it engages both intellect and personal freedom.[16]

[16] Cfr. *ibidem*, 64-65.

As to the *humanistic-social dimension* of scientific research, Tanzella-Nitti's vision of scientific humanism, which began to take shape during these years, does not shy away from scientific and technological progress. Rather, it strongly advocates for progress that is inherently humanizing. He stressed that true progress, particularly from a theological perspective, is achieved only when it leads to a deeper "humanization" of the person, which ultimately reflects the fulfillment of God's plan for every creature.[17] Tanzella-Nitti's writings on the humanistic dimensions of scientific research strongly echo Cantore's view of science as a humanistic and humanizing endeavor.[18] Echoing a well-established idea in the teachings of the Catholic Church, Tanzella-Nitti remarked that «the Christian knows that not every accumulation of scientific knowledge or technological innovation is, by itself, a sign of progress. They are so to the extent that the freedom, hope, and purpose underlying that knowledge and its applications are informed by filial charity, by the *form of Christ*. In essence, he affirmed, *charity is the form capable of trans-forming scientific progress into human promotion*».[19]

In his supervision of academic theses from 2008 to 2018, Tanzella-Nitti guided several important works, including a dissertation on the epistemological and humanistic openness of science in Steno, as well as a doctoral thesis on the personalist dimensions of technical-scientific research. This thesis reviewed a wide range of authors, including Cantore, while also engaging in dialogue with the philosophy of Maurice Blondel and Michael Polanyi.[20]

[17] The concept of progress was revisited by Giuseppe Tanzella-Nitti from a fundamental theological perspective in an essay published a few years later, cfr. G. Tanzella-Nitti, *Progresso scientifico e promozione umana: una riflessione teologica sulla nozione di progresso*, «La Società» 29 (2020) 45-64.

[18] Cfr. E. Cantore, *Science as Dialogical Humanizing Process: Highlights of a Vocation*, «Dialectica» 25 (1971) 293-316; Idem, *La scienza come fattore umanistico*, «Il Regno-attualità» 10 (1982) 216-219.

[19] G. Tanzella-Nitti, *Progresso scientifico e promozione umana*, 61 (our translation). Cfr. Giovanni Paolo II, *Ai partecipanti al congresso "UNIV '80"*, Rome, April 1, 1980, in *Insegnamenti di Giovanni Paolo II*, III, 1 (1980) 780-784; Benedict XVI, Encyclical Letter "*Caritas in veritate*", June 29, 2009, n. 30.

[20] Cfr. M.A. Vitoria, *La apertura epistemológica y humanista de la ciencia según Niels Stensen. Sugerencias para la evangelización de la cultura científica*, Pontifical University of the Holy

III. The Personalist Dimension of a "Science-Engaged Theology"

In Tanzella-Nitti's framework, theological reflection on the "scientific experience of foundations" does not merely produce a "theology of science" as theology of scientific discoveries or natural theology; rather, it develops into a true "theology of scientific work."[21] The reflection on the humanistic dimensions of scientific research leads Tanzella-Nitti to consider the theological implications of the scientist's work.

The possibility and actual occurrence of a scientific experience of foundations underscore the need for a theology that speaks within a scientific context, that is a "Science-Engaged Theology". Such a theology enables a reflection on the reasonableness of faith in Jesus Christ from a unified understanding of reason in dialogue with other sciences.[22] Within Tanzella-Nitti's work, this scientific context is not an eccentric choice nor a mere personal preference rooted in his background as an astronomer. Rather, it is a response to the demands of contemporary theological thought in the context of modern rationality, a path that has been encouraged by the Church's Magisterium on multiple occasions. In this respect, his project offers one of the few comprehensive and unified responses to the Magisterium's call over the last quarter-century to develop a new discourse on credibility—an original apologetic that emerges from a genuine encounter between theological and scientific-philosophical reason, intended not only for intra-ecclesial dialogue but also as a witness to the broader academic, scientific, and professional culture.[23]

Cross, STL Thesis, Rome 2012, *unpublished*; M. Savarese, *Le dimensioni personalistiche della ricerca tecnico-scientifica*, Edusc, Roma 2018.

[21] Cfr. C.B. Kaiser, *Toward a Theology of Scientific Endeavour. The Descent of Science*, Routledge, London-New York 2007.

[22] Cfr. G. Tanzella-Nitti, *Dialogue Between Theology and Science*, 2. The Author refers to recent contributions on "science-engaged" theologies: J. Perry, J. Leidenhag. *Science-Engaged Theology*, Cambridge University Press, Cambridge 2023; M. Harris, *A Scientist-Theologian's Perspective on Science-Engaged Theology: The Case for "Theology of Science" as a Sub-discipline within Science and Religion*, in Idem (ed.), *God and the Book of Nature Experiments in Theology of Science*, Routledge, London 2024.

[23] As a helpful reminder of the Magisterium's guidance, cfr. John Paul II, *Fides et Ratio* (1998), no. 67; Benedict XVI, *Caritas in Veritate* (2009), no. 30; Francis, *Evangelii Gaudium* (2013), nos. 132-133; and *Veritatis Gaudium* (2018), no. 4.

Along with the new apologetics developed in the latter half of the 20th century, Tanzella-Nitti favors terms such as "reasonableness" and "grounds for credibility" over "rationality" and "proofs." This is not simply a matter of lexical preference but stems from a profound respect for theological rationality within the Thomistic tradition and scientific rationality, which remains open to the evolution of knowledge and to deeper understandings of its objects of study. Human reason, *capax Veritatis* (capable of Truth), does not reach assent through algebraic or geometric certainties, but through a convergence of reasons that point toward a historical Person to be loved and engaged with.[24]

The foundation of this ambitious project rests on a personalistic appreciation of both theology as a science and as a personal endeavor, a rarely emphasized anthropological-theological aspect. Within Tanzella-Nitti's framework, the personalist dimension of a theology in dialogue with science is one of the project's most original and innovative features. In this view, both scientific and fundamental theological thought are understood as "personal knowledge." Drawing from Michel Polanyi, Tanzella-Nitti asserts that «scientific inquiry is never an impersonal or purely objective activity,» as «the subjective and personal dimension of the researcher plays a critical role in the genesis and dynamics of all inquiry».[25] He is convinced that re-emphasizing the role of the person as both subject and purpose of scientific and technical pursuits should not remain a mere theoretical conclusion; it must illuminate how we transmit culture, especially scientific culture.[26]

This idea positions Tanzella-Nitti's fundamental theology not only "in a scientific context" due to its engagement with scientific thought but also reflective of the reasoning style of contemporary rationality in a world heavily shaped by scientific thought. His approach aligns more closely with the Anglo-Saxon tradition of "Science & Theology" than with a traditional neoscholastic approach to fundamental theology with a touch of scientific

[24] Cfr. J. Ratzinger, *Introduction*, in R. Guardini, *The Lord* (1937), Regnery Publishing, Washington 1996, xiii-xiv; J. Mouroux, *I Believe: The Personal Structure of Faith*, Sheed & Ward, New York 1959.

[25] G. Tanzella-Nitti, *Le dimensioni umanistiche dell'attività tecnico-scientifica*, 39-40 (our translation).

[26] *Ibidem*, 70-71.

insight.[27] This orientation is evident in his emphasis on a theology of credibility, which occupies two of the four volumes in his treatise on Fundamental Theology, and in his theology of Revelation, which is sensitive to ecumenical and interreligious dialogue. Even his theology of the act of faith, in the fourth volume of his treatise, is marked by a personalistic understanding influenced by theologians such as Pierre Rousselot and Jean Mouroux.[28]

In addition to developing a personalistic dimension within the classic themes of fundamental theology, Tanzella-Nitti's thought bears two noteworthy outcomes. The first is the development of a "Theology of Science," where God's revelation through nature is understood as a "dialogue" between humanity and the Creator. The second is his effort to develop a "Theology of Scientific Work," an approach still relatively unexplored in theological circles.

This personalistic dimension of creation, as defined by Tanzella-Nitti, stresses the importance of developing a theology that treats the Logos not only as *ratio* (reason)—we recall it—but also as *Verbum* (Word). Theology is called to take seriously God's revelation through nature—a concept often overlooked in modern theology of revelation.[29] Before revealing Himself through salvation history, God offered and continues to offer a witness of Himself as Creator of heaven and earth (cfr. *Dei Verbum*, nos. 3, 6). This perspective impacts the relationship between humanity and nature, as God's revelation through creation is ultimately the source of experiences that scientists often describe: wonder, reverence, contemplation, beauty, and intelligibility.

[27] The idea of "science as personal knowledge and a fully-engaging activity" is discussed in IDEM, *Dialogue Between Theology and Science*, 10-11.

[28] «It thus seems logical that depersonalized knowledge cannot truly exist. One cannot genuinely know that toward which one has no interest, that which one does not love. The central role of the subject, both epistemologically and, ultimately, existentially, stems from the fact that one can only come to know truth by assenting to it—that is, by giving oneself to it» (IDEM, *Le dimensioni umanistiche dell'attività tecnico-scientifica*, 60 [our translation]). Cfr. MOUROUX, *I Believe*; P. ROUSSELOT, *The Eyes of Faith*, Fordham University Press, New York 1990. I have sought to summarize the main lines of Tanzella's four-volume treatise in C. TAGLIAPIETRA, *Un nuovo progetto di teologia fondamentale in dialogo con le scienze. Nota in margine all'opera "Teologia fondamentale in contesto scientifico" di G. Tanzella-Nitti*, «Rassegna di Teologia» 63 (2022) 621-630.

[29] Cfr. J. SÁNCHEZ CAÑIZARES, G. TANZELLA-NITTI, *La rivelazione di Dio nel creato nella Teologia della rivelazione del XX secolo*, «Annales Theologici» 20 (2006) 289-335.

This second aspect calls for a theology that values the religious dimension of scientific work and the scientific dimension of theological work.[30] Two biblical principles lay the groundwork for this approach. The first is the teaching on the dignity of the human person, created in the image and likeness of God, a principle that allows us to understand humanity as *capax Dei* (capable of God). The second is the personal, dialogical, and rational nature of the created world, which implies a realist approach to human knowledge and portrays humanity as a seeker of God (and, consequently, a seeker of Truth). This perspective is systematically presented in the Magisterium, especially in the Second Vatican Council's pastoral constitution *Gaudium et Spes* and later reaffirmed in John Paul II's encyclical *Fides et Ratio*.

Both outcomes of Tanzella-Nitti's scientific-theological thought are deeply rooted in scriptural and patristic traditions and draw from the history of Christian thought. This is evident in his revival of key theological perspectives, such as the concept of the "Book of Nature".[31] Another perspective and the contemporary engagement with wisdom literature, including the heritage of Christian Eastern traditions (in particular the *sophiologists* Pavel Florenskij, Sergei Bulgakov, and Vladimir Solov'ëv), which forms the basis for the development of his proposal for a sapiential scientific humanism following the inspiration of the late philosopher and friend Enrico Cantore. [32] Tanzella-Nitti defines *theologi-*

[30] Cfr. G. Tanzella-Nitti, *Teologia fondamentale in contesto scientifico – Teologia della Rivelazione. Vol. 4: Fede, Tradizione, Religioni*, Città Nuova, Roma 2022, 53-67, 506-523; Idem, *La dimensione religiosa dell'attività scientifica*, intervento al Convegno annuale dell'Associazione Italiana Teilhard de Chardin, Vicenza, November 12, 2022, *unpublished*.

[31] The idea is initially outlined from the suggestion in *Fides et Ratio*, no. 19, in Idem, *Teologia e scienza. Le ragioni di un dialogo*, Paoline, Milano 2003, 35-73. It is developed further in Idem, *The Two Books prior to the Scientific Revolution*, «Annales Theologici» 18 (2004) 51-83. An updated account of his research on this topic appears in the encyclopedia entry, Idem, *Book of Nature, Origin and Development of the Metaphor*, in G. Tanzella-Nitti, I. Colagè, A. Strumia (eds.), *International Encyclopedia of Religion and Science* (www.inters.org), 2019 (DOI:10.17421/2037-2329-2019-GT-1), which also references a doctoral dissertation he supervised: O. Juurikkala, *The Patristic and Medieval Metaphor of the Book of Nature: Implications for Fundamental Theology*, Pontifical University of the Holy Cross, STD Thesis, Rome 2019, *unpublished*.

[32] Cfr. Idem, *Un modo nuovo di guardare l'attività scientifica: l'eredità intellettuale di Enrico Cantore*, in E. Cantore, *Umanesimo scientifico e mistero di Cristo. Raccolta di scritti (1956-2002)*, edited by C. Tagliapietra, Edusc, Roma 2023, 7-24.

cally "scientific humanism" in relation to creation saying that «a theological reflection on the ultimate meaning of scientific activity sees it as an essential part of the task entrusted by God to humanity to humanize the earth. Scientific activity is thus understood as God's paternal invitation to participate wisely in creation, cooperating in its unfolding».[33]

The inclusion of scientific humanism within a theology of scientific work presents fascinating intersections with the theology of earthly realities—a perspective Tanzella-Nitti has inspired me to explore and develop further.[34] This area of Tanzella-Nitti's legacy is promising both for science and theology, and points to a direction for the future of theology and for the evangelizing mission of the Church in today's world.[35]

The humanistic ideal in interdisciplinary research, before being an academic focus for Tanzella-Nitti, is part of his pastoral concern as a priest and a man of prayer, dedicated to passing this ideal on to future generations of Christian men and women. To young researchers joining the SISRI who share the Christian ideal, he frequently suggests a prayer for the evangelization of scientific culture, which clearly reflects his scientific-pastoral vision. We want to conclude here with its opening: «Christ, Wisdom of the Father, make us with You, through the Holy Spirit, a perpetual offering, so that, united at the heart of the Church, the universal sacrament of salvation, we may bear witness to truth and love, promoting the dignity of all people—especially in the scientific and technological era of the third millennium—together with Mary, Joseph, and all the saints. Amen».[36]

[33] Idem, *Le dimensioni umanistiche dell'attività tecnico-scientifica*, 66 (our translation).

[34] Cfr. C. Tagliapietra, *Por una recuperación de la teología de las realidades terrenas*, «Scripta Theologica» 56 (2024) 161-194; Idem, *Teologia delle realtà terrene. Fondamenti e prospettive*, Rubbettino, Soveria Mannelli 2025.

[35] Some of the ongoing projects of the researchers of the Chair of Fundamental Theology at the Pontifical University of the Holy Cross are specifically focused on the theology of Evangelization, the deepening of scientific humanism, and the retrieval of a theology of earthly realities.

[36] Cfr. G. Tanzella-Nitti, A. Strumia, *Preghiera per l'Evangelizzazione della Cultura Scientifica*, SISRI, Rome 2023 (our translation), an unpublished booklet with a prayer for the evangelization of scientific culture (approved by the Rome Vicariat on December 13, 2011) and a commentary of the invocations.