

## *Review Articles on Religion and Science Around the World*

with Willem B. Drees, “Glocalization: Religion and Science around the World”; Seung Chul Kim, “Śūnyatā and Kokoro: Science–Religion Dialogue in the Japanese Context”; Lluís Oviedo and Alvaro Garre, “The Interaction between Religion and Science in Catholic Southern Europe (Italy, Spain, Portugal)”; and Bartosz Brożek and Michael Heller, “Science and Religion in the Kraków School.”

### THE INTERACTION BETWEEN RELIGION AND SCIENCE IN CATHOLIC SOUTHERN EUROPE (ITALY, SPAIN, PORTUGAL)

by *Lluís Oviedo and Alvaro Garre*

*Abstract.* Reviewing the last fifty years of interaction between religion and science in Catholicism in Southern Europe, common traits are clearly evident: a late awareness of the importance of this interaction and a theological reluctance to address science or to account for its progress. Early signs of the engagement between religion and science appear as a consequence of the work of the French anthropologist and theologian Teilhard de Chardin. In Italy and Spain in the last fifteen years, we see a substantive growth in the rise of research centers and academic activities devoted to exploring the common ground between science, philosophy, and theology. However, despite all these efforts and the many positive signs, there remains a long way to go for theology to consider science as a true challenge and an inspiration and to integrate it into the theological curriculum.

*Keywords:* Mariano Artigas; Teilhard de Chardin; Italy; Portugal; Spain

---

Half a century is a quite long time when trying to understand changes and dynamics occurring inside a theological field, particularly in its interaction with science or in related milieus such as Catholic philosophical reflection concerning scientific developments. Even if the scope of our research is limited to a well-bounded cultural space, Latin Catholic South Europe (more precisely, to Italy, Spain, and Portugal), many issues nevertheless arise, and a detailed treatment is justified. There is a circumstance that

Lluís Oviedo is Professor, Faculty of Theology, Pontificia Università Antonianum, Via Merulana 124, Roma 00185, Italy; e-mail: loviedo@antonianum.eu. Alvaro Garre is a PhD researcher in Theology, Instituto Teológico Murcia, Murcia, Spain; e-mail: alvarogarre@gmail.com.

helps us to better analyze the process: 2015 marks the fiftieth anniversary of the second Vatican Council, an event that has radically changed many features in Catholic societies and their traditional tenets. These changes prompted a greater openness toward contemporary culture and motivated an interest in some sectors among Catholic intellectuals to interact in a constructive way with secular reason and with science.

Most likely, the program and practice of science and faith has been mediated by cultural and theological contexts, and hence, we can expect different approaches and developments when moving from one area to another and from one time to the next. In that sense, the project of Willem Drees, *Zygon's* editor, to make the point of religion and science since the foundation of that journal, tracing and reconstructing its many contexts and programs, is an excellent idea and a first step for a badly needed history of religion and science in the twentieth century. That century yields the clues for new forms of interaction between science and religion, in both negative and positive expressions. Indeed, that convulsed period witnessed deep cultural changes, many of them affecting religious faith in Western societies. The sociologist Max Weber and, later, the theologian Dietrich Bonhoeffer—among others—anticipated the negative religious effect of science; for both authors, religion would never be the same in the modern advanced world. The reaction from religious intellectuals and pastors largely arrived late. Slowly, attempts were made in the theological margins to come to terms with scientific inputs and to address the challenges posed by science.

Most likely, before the sixties the real effect of science on religious faith was less of a problem, when all the churches knew forms of revival and great strength, especially after the desolation that resulted from two great wars and the manifold inflicted misery. Even if things were developing at quite a different pace in Central or Northern Europe and in the Southern areas, the process of modernization reached countries Italy and—with some further delay—Spain and Portugal. Traditional Catholics were also slowly being affected by the scientific mentality, and it was no longer possible to ignore the challenges that this mentality represented.

The present essay will attempt a historical and somewhat narrative reconstruction of the process of the progressive but slow awareness of the importance of the dialogue between faith and science that took place in Italy, Spain, and Portugal; these countries had common cultural and religious characteristics but nevertheless had each to come to terms in their own way with the pressure of sciences that were growing in their cultural influence. To this end, the first part will provide a broad description of the theological and religious context in which that awareness took place, very close to Vatican II and the Papacy. Then, the second part will reconstruct the steps taken in these countries, and in what could be described as the “Catholic milieu,” toward more mature developments and productions that engaged in that important dialogue. In these three cases, the specific religious

dynamics need to be accounted for to better understand developments in the dialogue with science.

#### THE “CATHOLIC MINDSET” AND ITS TRANSFORMATION OVER THE LAST FIFTY YEARS

Catholicism has been viewed as a uniform and even monolithic religious and cultural expression over the past centuries, likely as a result of an “identity formation” process involving a steady tension with other Christian expressions born from the Reformation years. The other source of that identity may be linked to the contrasts with the revolutionary events that took place during the nineteenth century, the modern process of social differentiation, and several cultural pressures, such as those born from nationalism and liberalism. The strong “Catholic mind,” with well-defined traits, could be clearly recognized until approximately the nineteen-sixties. That strong identity was nourished by a long season of “culture wars” in which Catholics grew a sense of resistance and vindication, along with a need to organize and consolidate their own ideas and strategies, to better cope with the battered times and the perceived threats that arose from a more secular context.

Theological attempts to update the Catholic cultural framework and to adapt to modern times in the period predating the sixties were frustrated by the Catholic strategy to enforce a unifying philosophical and theological model, Thomism, to all centers of superior education. This move had been rendered official with the publication of the encyclical letter *Aeterni Patris* in 1879, in which Thomism was imposed as the most fitting philosophical basis for any Catholic intellectual endeavor. As a consequence, the Catholic mentality grew quite confidently convinced that the relationships between faith and reason—and with science, as well—were already fixed and solved in the genial and definitive arrangements made by Thomas Aquinas in the thirteenth century. In that atmosphere, any new idea or scientific input that could not be accommodated into this grandiose construction should be dismissed or ignored.

The Catholic Church was, in any case, avoiding a frontal clash with evolutionary theory and other new scientific views because of the negative experience that resulted from the “Galileo case.” In general, Catholic authorities, assuming a rather low profile, discouraged the few attempts made by theologians to address Darwin’s theory in the decades that followed the publication of *The Origin of Species* (Artigas 2006). Only when the pressures became too powerful, and the challenges could no longer be ignored, were some steps taken to recognize the scientific facts regarding evolution and human origins. In this line, in 1950 Pope Pius XII published

the encyclical *Humani generis*, which assumed the validity of evolutionary arguments with few caveats.

It is remarkable to note that in all these processes, the Catholic authority avoided strong magisterial pronouncements that forbade or dismissed evolutionary theories or other scientific developments. In fact, an openness to science was recognized in the document of the Vatican II, *Gaudium et Spes* (1965). For instance, paragraphs 5 and 57 of this document offer a positive view of science and technology while explaining the nuances regarding the dangers associated with scientific absolutism.

The aforementioned conditions could justify a greater engagement with science, but things were not proceeding in that direction, and several decades more would have to pass until an awareness could grow in that line. It could be expected that a large number of theologians would become involved in a necessary dialogue with science; however, only a minority engaged in that interdisciplinary activity.

There are a few explanations for the mismatch between what could be seen as a clear openness from the Catholic “magisteria” and real progress in the field of research. Catholic thought has been quite used to assuming an *a priori* view, claiming that faith and reason are not in contradiction, and that, as Thomas Aquinas was able to show in his time, in the present circumstances we do not need to care too much about the actual or possible conflicts that could emerge between science and faith. Things would adjust in some way, at some point. Then, the Second Vatican Council and the Pope’s declarations were intended to show that the Catholic Church would not alienate scientists and, by the same token, that science is too important to be ignored and displaced in the margins of faith. However, the second part of this principle, the consequences, is less clear or hardly yet brought to an end. Considering the large number of Catholic universities, many of which include faculties or departments of science and technology, it would be odd if the Catholic authority could take a stand on the issues of scientific and technological development. The reception of these developments in the theological field, and even more in the understanding of Christian doctrines, is a different matter. Those fields have been relatively preserved and have remained self-centered and isolated regarding science, and they continue to grow as separate instances of intellectual reflection inside the Catholic Church.

What can be observed in recent decades in Catholic theological faculties and other centers of theological higher education, as a general tendency, is a real disengagement with science and an attitude that relies more on some forms of incommensurability or even the “superiority” of theological insight over scientific research. In this way, theologians and pastors have tried to avoid any conflict, putting into practice a principle of “non-overlapping magisteria,” even before Stephen Jay Gould rendered explicit his own version of evolutionary theory. Therefore, the rule or default

position in Catholic theology, especially in southern European countries, has been to ignore the challenges that science could pose and to assume that theology can grow independently from any input from laboratories and research institutions.

It is sad to recognize that Catholic theology has become very self-referential in recent decades and that a working program of dialogue with critical reason and science has been neglected. This trend becomes more worrisome when considering that theology departments, which emerged close to scientific departments on prestigious Catholic campuses, tried to avoid any contact with their scientific neighbors, and cross-fertilization was shunned. Although science was recognized as an important and dignifying human endeavor, following the steps of the Second Vatican Council, nevertheless that step did not indicate that theological elaboration needed to pay attention to scientific development as a condition of its own true progress and updating. Perhaps the philosophical basis of the theological main schools in the late twentieth century was too idealistic, and it prompted self-sufficient models that were well immunized against the contributions of empirical studies. In those years, it was even common to meet highly quoted theologians in Italy and Spain that shunned any engagement with science. The arguments could be manifold. Science was superficial and unable to provide the depth and meaning that contemporary philosophies could bring; scientists were unable to engage with issues of meaning and were above all unwilling to go into the question of God; theology was operating on a different level—whereas science addresses “penultimate things,” theology addresses the “last issues.” These forms of dismissal were simply reflecting some biases in the mindset of two generations of theologians that systematically ignored the weight and importance of science for contemporary culture and life. This could be attributed to an excessive reliance upon philosophies, mostly “continental” ones, whose programs ignored the real influence of science or whose methodology shunned any contact with the empirical and practical levels of reality.

Theology in the period under examination was more focused on its own foundations in divine revelation and on a deepening of the experience of faith as a fundamental human trait. The questions derived from science were mostly bypassed as strategies that involved the existential dimensions of faith or as philosophical anthropologies that showed the basic structure of openness to faith observed in the human condition. That approach was not exclusive to Latin Catholic areas; indeed, it was the common currency for almost all Continental European theology. Italian and Spanish or Portuguese theologians assumed a broad tendency that rendered the apologetic effort unnecessary once that openness to religion and revelation was exposed. Science was simply ignored in this big schema, or it could hardly find a place, except to provide arguments to confirm the already acquired positions.

By analyzing the bibliographical record, it is somewhat clear that even the rise of *new atheism*, with its explicit scientific accents, has not drawn the attention of theologians in Spain or Italy. New atheism could be easily dismissed as some type of local Anglo-American question, without any relevance for cultures with deep Catholic roots. Indeed, the theological arguments could point to differential cultural factors. European Catholic areas could avoid the excesses of religious fundamentalism, of simplified creationism and the like, as emerged in other settings, and they could keep a more neutral—or even positive—profile regarding scientific progress. In these conditions, scientifically inspired atheism would lose its impact in countries with less irrational tendencies.

Some of the aforementioned issues invite more sociological analysis regarding religiosity in Italy and Spain or Portugal to understand the peculiarities of the engagement with science—or the lack of it. The period covered by the present essay, 1965–2015, has been one of great religious and cultural transformation in these countries. The period is characterized by strong traditional Catholicism, by a monopolistic nature in Spain and Portugal, and by few challengers in Italy. This Christian tradition surely constituted a massive part of the cultural and even the national identities of these countries. The process of modernization arrived perhaps with some delay to these areas; however, it moved inexorably toward societies with high educational standards, good quality of life, and an advanced welfare system. From the seventies onwards, the process of secularization transformed the religious landscape to the point of turning very Catholic societies into zones of steadily falling indicators of religiosity. In some areas, forms of traditional Catholicism persisted, for example, in the Italian “deep south”; nevertheless, they could be seen as a rather idiosyncratic exception, merely representatives of less modernized social sectors.

It is remarkable that Catholicism was more accustomed to getting into confrontations with anticlerical movements in an open rivalry with those who resented the excess of Catholic power and influence. The “enemies of the Church” were quite recognizable and explicit; the polarization inherited from a long period of “culture wars” was still alive in the memory of many even in the nineteen-seventies. In the seventies and eighties, Marxism was still considered a main foe, along with other minor expressions of militant atheism. In any case, in that panorama, science was rarely assumed as an enemy in conflict, even if it could be carried more as a means of convenience by some antiecclesial groups. The focus was directed toward other “challengers” of faith; atheism was located more in militant philosophies and less on ground processes associated with modernization.

Things changed in a great way when secularization rendered obsolete and even redundant the hostilities linked to forms of “culture war” and other expressions of open ideological conflict. In the new context of social differentiation, broader scientific education, and new lifestyles, many people

grew up in a disengaged and even disillusioned atmosphere regarding religious issues. In this new context, these issues have been rather dismissed as irrelevant and useless, as most people have assumed other goals and priorities in their own lives. This new context can explain that, for most theologians and pastors, science was less a problem and perhaps more a nuisance. This transformation was taking place while many still thought that the true enemies were still at the gates of the churches pressing to invade the sacred space; science was not, at the time, associated with the general religious crisis that took place after the seventies. Science was perceived, in general, as neither a problem nor an opportunity for the renewal or updating of the contents of faith.

In that context, more Catholic theologians understood that their role was essentially to preserve the proper space for theological reflection that was immune from the criticism or skepticism emerging from the ranks of science. Once its own ground had been ensured, theology could proceed to do its business as usual without caring about scientific developments, which should be better kept at bay; theology proceeded in its usual self-referential style. The impression is that Catholic theology—and not only Catholic—in the last decades of the twentieth century primarily followed a pattern of “differentiation,” confident that its own *lebensraum* would be respected insofar as theology and the Catholic faith would respect scientific progress without interference. Each sector would specialize in a human and social dimension, giving rise to autonomous institutions and forms of reflection that should not hamper each other.

Currently, at the end of this long period, things appear to be quite dysfunctional and unsatisfying. Many studies about secularization, after Max Weber, clearly show a positive correlation between levels of scientific formation and religious decline. The expected benefits of a preserved theological space become less and less evident, and this isolation has not prevented the steady loss of religious interest and credibility. The practical choice of avoiding engagement with scientific claims and explanations, which is the approach of most Catholic pastors, theologians, and institutions, has not helped to preserve a strong Catholic identity.

Following the recommendations of Pope Benedict XVI to put forth a greater effort toward dialogue between faith and reason—including science—Pope Francis, in his recent exhortation *Evangelii Gaudium* (2013), has insisted in at least three paragraphs (133, 242, and 243) that there is a need to engage in a dialogue with science. Now, some signs can be perceived that the southern Catholic milieu is moving toward a greater engagement with science, even if, currently, most Catholic theologians and pastors continue to be unimpressed by these appeals. The structure of theological curricula still displays a lack of attention to scientific issues. As an example, most handbooks of Christian anthropology ignore the scientific views that clearly affect our understanding of human nature and relevant

issues, such as its origins, the problem of evil and its causes, and the ideas of the soul, freedom, and love. It should no longer be possible to develop the curriculum of theological formation without paying close attention to all these issues; ignoring them will be highly damaging. However, there is still a long way to go until what represents a minor sensitivity becomes the main approach.

In the current religious context of Catholic Latin countries, a dual condition determines the options of engagement with science. The duality is due to the persistence of a broad segment of Catholic population of a traditional formation, who are older than average, have a low education level, prefer to ignore issues related to science, and remain faithful to their inherited worldviews and models of faith. To this segment could be added people strongly committed to Catholic movements that stress dimensions of faith as a deeply transforming experience, and in this way manage to bypass the challenges born from scientific progress. Such circumstances are reminiscent of the strategies by Mormons and similarly strict groups that remain faithful to their own ideas, despite the odds, and yet engage in many cases in scientific research. On the other side of this dual condition, we find believers with high levels of formation who are younger and less linked to traditional religious devotions. This second segment, often far from the church, frequently perceives Catholic thought as outdated and out of touch with the modern world; for them, the way doctrines are exposed becomes a hindrance and a question mark for their personal faith.

The described context places theological reflection and pastoral praxis in a dilemma. Caring for the first segment would rather discourage engagement with science or any attempt at “updating” the way doctrines are presented, but it would further alienate other sectors of people who are more scientifically informed. Theology is, in any case, required to do its duty, that is, to engage in dialogue with the renewed instances of reason while trying to avoid collateral damage. There is also urgency to adapt traditional doctrines to a more scientific framework. However, a balanced stance has been the norm to improve the situation of the current religious decline in southern Europe.

#### STEPS TOWARD A GREATER ENGAGEMENT WITH SCIENCE IN ITALY

Italy has witnessed, in the last few years, a sort of “awakening” that is a result of the publication of many essays, the organization of important academic societies, courses, and conferences, and a growing awareness in the theological community about the urgency to address the main challenges arising from the scientific field. It is probable that the insistent appeals of the last two popes in this sense have been, after all, not in vain.

It can be stated that the first step in this process has been given by scholars inspired by the thought and work of the French theologian

and anthropologist Teilhard de Chardin (1881–1955). This French Jesuit can be considered a pioneer in the early attempts to find ways of synthesis between evolutionary theory and theological reflection inside a rather hostile Catholic environment; indeed, he suffered interdictions, and his works were forbidden in Catholic libraries and teaching for many years. The reception of his thought started quite early in Italy, but it was very conflictive. A published study plainly shows how Catholic circles in Italy, and still more in Rome, reacted against Teilhard in connection with an atmosphere of deep suspicion against evolutionary theory. His work was discredited as a botched attempt to integrate Catholic doctrines and the evolutionary landscape that was becoming the standard in the scientific understanding of human origins. This reactionary position held by many Catholic intellectuals against evolutionism lasted until the sixties and left a deep trace even until recent years (Maestrello 2008). However, in that controversial atmosphere, several Italian authors started taking the side of Teilhard de Chardin, considering his approach to evolution to be a source of inspiration. As a result, in 1964, the *Associazione Italiana Teilhard de Chardin* was founded in Torino. Among their aims formulated in 1973 appears the following sentence:

The person and the literary work of Teilhard de Chardin are an example and a methodological trace to tackle the big issues of our time, and in particular on the relationship between faith, science, political practice, that is, in other words, the relationship between various conceptions of man's place in the cosmos based on scientific, religious, socio-economic, etc. ideologies.<sup>1</sup>

The influence of Teilhard over subsequent decades can be followed in the works of many authors, particularly—but not only—theologians. The names of Catholic scientists and lay intellectuals have been notable ever since this intense reception. Some developments in Italian theology in the eighties and nineties reflect the constant presence of Teilhard's ideas from several authors and in several essays, almost always in an attempt to better integrate Christian anthropology and the requirements coming from new cosmological and biological studies. As an example, a collective book published in 1993 about creation and anthropocentrism quotes Teilhard on seven occasions, primarily in the contribution of the theologian Franco Brambilla (Giannoni 1993). These preoccupations can be viewed as characteristic of the theological research of a branch of Italian theology, which is placed in northern theological centers, and as showing a special sensitivity and openness toward scientific developments and topics.

However, the general impression is that the early group of followers of Teilhard de Chardin in Italy was rather reduced, even if they were significant in terms of the high profile of those who defended his thought. Only the arrival of a new generation of theologians and Catholic philosophers changed the atmosphere and nourished a greater concern and a more open

interest in the reception and dialogue with science as both a challenge and a source of inspiration. A look to the available published literature shows a significant increase in recent years of works by Italian authors about questions of science and faith and of translations of essays that can be deemed “classics” in that field.

During the nineties, there were still few titles that focused on the theological reception of science. In 1993, a collective work with the title *La creazione. Oltre l'antropocentrismo* (*The Creation: Beyond Anthropocentrism*) was published. This title gathers basically the proceedings of a conference held by the Associazione Teologica Italiana in 1992 (Giannoni 1993). Ecological issues are of concern, and scientific cosmologies are reviewed by one of the contributors (Brambilla) as an important partner for theological dialogue. In a similar vein, the book *Cosmologia e antropologia* (Ancona 1995) appeared in 1995, which presented the proceedings of a conference of the same theological society held one year earlier. In this volume, the engagement with scientific cosmology and particularly with evolution appears more intense and is viewed as a true mission of theology, aiming to correct excesses and flaws in scientific views. Theology appears with a vocation of a decided interlocutor of science that aims to show limits and to provide alternatives to scientific shortcomings.

Various recent essays have explored, from a particular Italian view, the boundaries between science and religion, or more specifically Christian faith. For instance, Gualberto Gismondi published in 1993 *Fede e cultura scientifica* in an attempt to find possible forms of interaction in this interface. In 1994, Paolo Bisogno edited a collective book, *Le religioni di Abramo e la scienza*, which gathered many essays from an international panel and was clearly moving in the interface between science and religion. Again, the main goal was to clear a space for religion before the limitations of science.

In 1996, a book by Ignazio Sanna, *Fede, scienza e la fine del mondo*, was published; it explores issues of cosmology to help better address Christian eschatology, and how Christian views contribute to provide meaning to an uncertain future.

The new century offers more titles for what seems to be a more mature stage in the dialogue. Some of the published works report on conferences and encounters between philosophers, scientists, and theologians to better explore their understanding of central issues that cover a common ground. These works include a collective book published in 2003 on the issue of truth (*La questione della verità. Filosofia, scienze e teologia*, edited by Vittorio Possenti); *Teologie della creazione e scienze della natura*, edited by Valentino Maraldi (2004), again proceeding from a conference devoted to the dialogue between science and religion; and a title from 2007 on the issue of rationality (*Religione, scienza e la prova della ragione*, edited by Gaetano Quagliariello). Furthermore, a monograph by Sergio Rondinara

explores the way reality is interpreted (*Interpretazione del reale tra scienza e teologia*, 2007). Another noteworthy title of this kind is Valter Danna and Alberto Piola (eds.), *Scienza e fede: un dialogo possibile? Evoluzionismo e teologia della creazione* (2009), in which the issue of meaning appears central to assisting in the dialogue.

Introductory and general issues of interest for a theological first approach to science have been summarized in titles such as Giuseppe Tanzella-Nitti's *Teologia e scienza. Le ragioni di un dialogo* (2003).

Other studies in the past fifteen years have been devoted to specific issues that have arisen in the contact between science and theology. Several interesting titles address anthropological issues, for instance, on human origins: Fiorenzo Facchini's, *E l'uomo venne sulla terra. Creazione o evoluzione?* (2005) and *L'avventura dell'uomo: caso o progetto* (2006). As well as Anna M. Cenci's *Dalla scienza alla fede. Evoluzione o creazione?* (2005). Other essays have focused on the issue of original sin: Antonio Olmi, *Il peccato originale tra teologia e scienza* (2008); on the topic of the soul in dialogue with neuroscience: Nicola D'Onghia, *Il concetto di anima tra neuroscienze e teologia* (2011); and the issue of human freedom: Leonardo Paris, *Sulla libertà. Prospettive di teologia trinitaria tra neuroscienze e filosofia* (2012).

Many recent works have explored different realms of research, such as the historical realm, for instance, Stefano Visentin, *Teologia e scienza moderna* (2011). The past 3–4 years have shown a considerable increase in titles on display and available for deepening more specific questions. Good monographs can be found along with works of general focus or introductory issues. In a quick exposition of several of these new titles, the following works present attempts at dialogue between theologians and scientists. The combinations include, for instance, the theologian Francesco Brancato and the astrophysicists Piero Benvenuti, *Contempla il cielo e osserva* (2013). Then, F. Brancato again dialogues with the biologist Ludovico Galleni in a recent volume of issues of evolution (*L'atomo sperduto. Il posto dell'uomo nell'universo*, 2014). Further examples of dialogue are Alfio Briguglia and Giuseppe Savagnone, *Scienza e fede: la pazienza del dialogo* (2010), and Brancato, *Creazione ed evoluzione. La grammatica di un dialogo possibile alla luce della riflessione di Joseph Ratzinger* (2009). Then, we find essays more focused on one field of research, such as Gabriele Scalmana, *Teologia e biologia* (2010) and Filippo Serafini and Piero Benvenuti, *Genesi e Big Bang* (2013), which focus on cosmological issues.

A series of other recent studies report the outcomes of conferences or research groups specifically devoted to these issues. Of special interest is Mauro Mantovani and Marilena Amerise (eds.), *Fede, cultura e scienza. Discipline in dialogo* (2008), a collection of essays from the research group Science, Theology and the Ontological Quest (STOQ), based in Rome and supported by a grant from the Templeton Foundation. Then, we find the title by Sergio Rondinara (ed.) *L'intellegibilità del reale. Natura, uomo,*

*macchina* (2013), which gathers papers by the research group called SEFIR (Scienza e Fede sull'Interpretazione del Reale), also based in Rome.

One of the greatest bibliographic achievements in Italy that measures the strength of the engagement between science and faith has been the 2002 publication of the *Dizionario Interdisciplinare di Scienza e Fede* edited by G. Tanzella-Nitti and A. Strumia, in two volumes and 2,340 pages, including 170 entries. This work has gathered an extraordinary panel of Italian and international specialists in many fields with the shared aim of deepening the dialogue between science and faith.

The formation of research groups and projects and the organization of courses, masters, and lectures can be considered an indicator of the vitality of the commitment between scientists, Catholic philosophers, and theologians. The work and numerous publications of the Pontifical Academy of Sciences and the Specola Vaticana—the astronomic observatory close to Castelgandolfo—not exactly *Italians* but *Vaticans* should be considered in this list of activities. The aforementioned program SEFIR is linked to the Pontifical University Lateranum. The program STOQ was originally linked to the Pontifical Gregoriana University and involves most Pontifical Universities in Rome; in 2009, it organized the famous Conference *Biological Evolution: Facts and Theories*, commemorating 150 years since the publication of Darwin's *Origin of Species*. Then, we find the master on *Science and Faith*, which has for many years organized the Pontifical Athenaeum Regina Apostolorum in Rome, which develops one of the few academic programs in that direction. The Pontifical University of the Holy Cross offers a program on Documentazione Interdisciplinare di Scienza e Fede (DISF). The Pontifical University Antonianum, also in Rome, hosts a research project with the title *The Human Specificity: Tools, Symbols and Culture among Neuroscience, Philosophical Anthropology and the Religious Attitude towards Creation*, directed by Ivan Colagè. This is a project financed by the Templeton Foundation and is devoted to research on a central anthropological issue, summoning areas such as neuroscience, paleoanthropology, and primatology on one hand and philosophy and theology on the other.

It is worth mentioning that Italy has twice been the host of the biannual conferences held by the European Society for the Study of Science and Theology (ESSSAT). The first one took place in 1992 in Rocca di Papa, close to Rome, and it was co-sponsored by the Specola Vaticana, the Vatican astronomical observatory. The second very recently took place in Assisi and Perugia in May 2014 and was co-sponsored by the Antonianum University and the University of Perugia.

#### SCIENCE, RELIGION, AND THEOLOGY IN SPAIN: MAIN NAMES

The Spanish panorama concerning science and religion is not as rich as the one in Italy. Perhaps one reason for that is its lower level of theological

“density”; indeed, Rome is an exceptional case with its many theological institutions and research centers. Publications about these issues have increased in Spain in the last few years; however, many titles are just translations of the books published by the most quoted authors in the international scene.

As in Italy, in Spain there can be traced an early reception of the thought of Teilhard de Chardin, especially due to the editorial efforts of M. Crusafont. Many signs of this reception can be seen as early as the sixties. However, a “Teilhard Society” similar to the one that has existed in Italy since 1964 has been launched only recently (2013). Hence, it can be deduced that his influence has been minimal in the Spanish theological landscape. Indeed, for some decades, the incidence of science in theological reflection has been reduced, with some honorable exceptions. The most noteworthy is represented by the book of the theologian Juan Luis Ruiz de la Peña, *Las nuevas antropologías. Un reto a la teología* (1983). This study reveals an extraordinary sensitivity toward the “challenges”—as the title expresses—that Christian anthropology is called to address as an answer to biological and neurological developments.

However, from the eighties on, other scholars have filled the void that could be perceived in many theological areas. These rather individual figures have devoted a great deal of their academic efforts to the pursuit of the dialogue between science and faith. Reporting the main cases will help to better describe their reach and meaning: Mariano Artigas, Manuel García Doncel, and Raimon Panikkar.

Mariano Artigas (1938–2006), a priest member of the Catholic society Opus Dei, is one of the pioneers of the dialogue between science and religion in Spain. He had PhDs in physics and philosophy and was the first Dean of the Ecclesiastical Faculty of Philosophy, University of Navarra, where he taught philosophy of nature and science. In 1995 he received a Templeton Foundation award and was a member of the International Society for Science and Religion (based at the University of Cambridge). One of the keys to his thinking was the compatibility of classical philosophy with modern science and an attempt at updating Thomistic tradition with the help of contemporary scientific language. He was a prolific author, with nineteen published books, some by prestigious publishers such as Oxford University Press and translated into several languages and with numerous editions. He also had fifty articles published in professional journals and wrote hundreds of articles aimed to shape a highly informed popular public. He held an epistolary dialogue with Karl Popper on various philosophical issues, such as realism in science (Artigas 1999).

In 1984, Artigas published his first book, *Science, Reason and Faith*, whose title expresses his deep conviction about the harmony between science and faith and the simultaneous necessary mediation of philosophical reason. According to him, science, reason, and faith are three pillars

that reinforce and complement each other. The attempt to reduce some of them in favor of others would lead to the failure of all the three. He always defended the need to maintain each one's legitimate autonomy and their mutual interdependence and closeness. The acclaimed physicist John Eccles prefaced another of Artigas' most famous works, *The Boundaries of Evolutionism* (*Las fronteras del evolucionismo*, 1985).

For Artigas, the theory of evolution moved in a different field of knowledge, one of creationist doctrine. When a confrontation between evolution and creation arises, a faulty epistemological approach is to be blamed. Thus, he preferred to speak of an "evolutionary creationism" or a "creationist evolution."

Most publications of Artigas were devoted to epistemology and philosophy of science, for instance his much quoted essay *Knowing Things for Sure: Science and Truth* (2006). One of the clues to his thought has been his respect for science, which cannot be self-erected as the only epistemological model or the ultimate criterion of truth because such a move could become self-destructive. If science neglects its own realist philosophical assumptions (the existence of extra-mental truth and the human capacity to know), then it could become subjected to spurious interests.

Certainly, one of his most representative works is *The Mind of the Universe: Understanding Science and Religion* (2001). The main topic of the book is the ability to bridge the gap between science and faith through a philosophical reflection grounded in the facts of knowledge, its assumptions, and the progress of science. The essential line of argument is that science is determined by necessary ontological, epistemological, and ethical assumptions that are consistently thinkable only in the context of a theistic and creationist philosophy and that the actual progress of science works as a verification of the truth of these assumptions. These three cases reflect a picture of the world as having an intelligible order and of man as a being capable of knowing that order. The last explanation can only be found in the Christian doctrine of God as the Creator of the universe according to a divine plan, which man can know as a creature made in the image and likeness of the Creator.

In collaboration with William R. Shea, he published two books: *Galileo in Rome: The Rise and Fall of a Troublesome Genius* (2003) and *Galileo Observed: Science and the Politics of Belief* (2006). Both titles offer exposure to and a historical analysis of the various positions on the Galileo case. Also the result of their research in the Vatican Archives is the book written in collaboration with Melchor Sánchez de Toca: *Galileo and the Vatican. History of the Pontifical Commission for the Study of the Galileo Case (1981–1992)* (2008). Regarding Darwin, he published, in collaboration with Thomas F. Glick and Rafael A. Martínez, the book *Negotiating Darwin: The Vatican Confronts Evolution, 1877–1902* (2006).

In 2006 appeared *Oracles of Science: Celebrity Scientists Versus God and Religion*, written in collaboration with Karl Giberson and also published by Oxford University Press. In this work are examined the popular writings of six influential scientists, particularly concerning the dominant understanding of science: the biologists Stephen Jay Gould, Richard Dawkins, and E. O. Wilson, and the physicists Carl Sagan, Stephen Hawking, and Steven Weinberg. Artigas and Giberson debunk the arguments on the incompatibility between religion and science with a calm and balanced review of these positions and without detracting support for their scientific contributions or their realistic conception of knowledge. The criticism, rather, focuses on their departure from scientific rigor to indulge in speculation that exceeds the methodological limitations of science. The central thesis of the book is the possibility of “a harmonious coexistence between science and religion” (p. II).

Furthermore, two other books were published posthumously: *El origen del hombre. Ciencia, filosofía y religión* (2007, written with Daniel Turbón) and *Ciencia y Religión. Conceptos Fundamentales* (2007).

Since 1999, a group of professors from different faculties, gathering around Artigas, held a series of informal meetings that eventually crystallized in 2002 in the formal establishment of the Research Group on Science, Reason and Faith (CRYF), based in the Catholic University of Navarra (Spain), which aims to promote the interdisciplinary study of issues in converging science, philosophy, and theology: the origin of the universe, evolutionism, order, complexity and purpose, nature and person, science and truth, science and religion and so on. The project has been joined by scholars from other universities, such as Evandro Agazzi and William R. Shea. With his outstanding pioneering work, Artigas has helped to build bridges between science, religion, and philosophy, restoring science to its philosophical significance and rendering metaphysics and theology able to dialogue with science on the same level.

The Jesuit Manuel García Doncel is another pioneer of the science–theology dialogue in Spain. He is a doctor in physics and has a master’s in philosophy and theology. He is Emeritus Professor of Theoretical Elementary Particle Physics and History of Science at the Autonomous University of Barcelona, where he founded the Centre for the Study of the History of Science in 1983. He has also been professor in the Institute of Fundamental Theology, Barcelona, where he founded the Seminary of Theology and Science in 1993. This institution promotes the diffusion in the Spanish language of the major authors in that field.

García Doncel has published more than 30 articles and books on particle physics, 100 on the history of philosophy and science, and 80 on the dialogue between science and theology. His endeavors include “The Kenosis of the Creator and of the Created Co-Creator,” published in the journal

*Zygon* (2004), and a two-volume book on science and religion, *El diálogo teología-ciencias hoy: I. Perspectiva histórica y oportunidad actual* (2001) and II. *Perspectivas científica y teológica* (2003).

García Doncel argues that by thinking about the relationship between religion and science, fundamentalism has to be excluded on both sides. Hence, two extremes should be avoided: first, the scientific fundamentalism that reduces the real to the empirical method and establishes its method of knowledge and verification as the absolute standard for all epistemology and ontology, and second, religious fundamentalism—in its classic version, creationism, or in the contemporary version, intelligent design—which holds that the statements of the book of Genesis about the origin of man and the world are scientifically sound. His proposal for a joint integration goes along the lines of the theological intuitions developed by Teilhard de Chardin, Karl Schmidt-Moormann, Karl Rahner, and Denis Edwards.

Raimon Panikkar (1918–2010) is one of the most prominent representatives of intercultural and interdisciplinary thinking. His work draws on sources from Indian and European culture. He introduces himself as Hindu and Christian, scientist and humanist. He is a doctor in chemistry, philosophy, and theology, and he has taught at the Harvard Divinity School. He was a member of the International Institute of Philosophy and the founder of several journals and centers of cultural studies. He is the author of more than forty books and over a thousand articles on comparative religion, Indology, philosophy of science, and metaphysics.

In 2005, he published in Italian the book *La porta stretta della conoscenza. Sensi, ragione e fede*. For Panikkar, science and religion are two forms of knowledge, two ways of conceiving the world, but not *the* knowledge itself. The conflict between the two is not a conflict between reason and faith but a conflict between worldviews that invites the provisional symbiosis of human knowledge. The meeting does not take place in the field of science or of theology but interweaves different worldviews in a common warp.

In 2008, Panikkar published in German the book *Liebe-Urquelle des Kosmos: Ein Gespräch über Naturwissenschaft und Religion* (2008) along with the renowned quantum physicist Hans-Peter Dürr. This book offers a dialogue between Panikkar and Dürr (disciple of Nobel laureate Heisenberg and current director of the Max Planck Institute for Physics). Panikkar offers a cosmotheandric vision, in which science, philosophy, and theology become complementary because “reality demonstrates a threefold dimension, consisting of an empirical (or physical) element, a *noetic* (or psychological) factor and a constituent metaphysical (or spiritual) part” (Dürr and Panikkar 2008, 68). This is a unique concept of reality according to which the divine, the cosmic, and the human are set to a constant, constitutive, and essential relationship. In that *relationship*, love is what unites the divine, human, and cosmic reality. God, divinity, or forms of non-theistic mystery form the basis of that love. “It must therefore be an

original experience, in which love and knowledge are not divided” (Dürr and Panikkar 2008, 76, 78).

Beyond these three significant names and their specific contributions, several other authors and titles can be found, mostly published in the last ten years. The list includes Agustín Udías, *Ciencia y religión. Dos visiones del mundo* (2010), a work of general interest that tries to overcome flawed conceptions of antagonism between science and religion; Javier Monserrat, *Hacia el nuevo concilio* (2010), which pleads for a new approach from the Catholic Church to the new challenges of this age, often signed by scientific development; and the collective book edited by Jaume Navarro, *Science and Faith within Reason* (2013), with Spanish and international contributions, conceived as an homage to the work and legacy of Prof. Artigas.

Some signs of interest are the presence of at least five institutions or research programs in Spain devoted to the development of the relationships between science and religion. Beyond the aforementioned CRYF, based at the University of Navarra, and the STICB (Seminari de Teologia i Ciencia de Barcelona), we find the Sophia Iberia project, based at the University of Comillas, Madrid, which organized—among other activities—an important conference in 2010 on *Life, Evolution and Complexity*, thanks to the funding of the Templeton Foundation. It has since become the Catedra de Ciencia, Tecnología y Religión, first directed by the Jesuit mathematician Javier Leach, followed by Camino Cañón, and promotes a great spectrum of activities in that interface. A similar “cátedra” is present in the Universitat Internacional de Catalunya, in Barcelona, this time with the title Cultura, Ciencia y Religión, directed by Josep Corcó and with similar aims. Finally, a series of summer schools (from 2007 to 2014) has been organized at the Monastery of St. Mary of Poblet (close to Barcelona), aimed at exploring issues of evolution and its philosophical and theological meaning along with other topics in the field of science and theology (Auletta and Pons 2013).

Spain once hosted the ESSSAT Conference, in Barcelona in 2004, thanks to the effort of Manuel García Doncel and the sponsorship of various academic institutions in that city. Professor Artigas was one of the main speakers.

Finally, one of the authors of the present report, the Franciscan theologian Lluís Oviedo, has edited since 2008 the bibliographic bulletin on issues of science and theology *ESSSAT News and Reviews* and has co-edited the *Encyclopedia of Sciences and Religions* (Runehov and Oviedo 2013). For many years, he has delivered specialized courses on science and theology, primarily at the Franciscan Antonianum University (Rome).

A detail of interest revealing the direction of these efforts is that, in almost all cases, the quoted scholars and programs involve not professional theologians but scientists and philosophers. In several cases, the colleagues committed to these programs have a theological degree as a complement

to their main research field, but theology is not usually their primary academic activity. This remains symptomatic of a situation that renders theology mostly self-centered and self-alienated from the dialogue with science. The dialogue that matters becomes thus an activity rather reserved to Christian scientists and philosophers.

#### PROGRESS ON SCIENCE AND RELIGION IN PORTUGAL

Portugal offers interesting contributions to the field of science and religion, as well. João J. Vila-Chã, Editor of the *Revista Portuguesa de Filosofia* and professor of Philosophy of Religion at the Catholic University of Portugal, Braga, edited a monographic issue in 2007 about philosophy and science in the same journal. An international panel was gathered to address central issues in that field, including Hans-Peter Dürr, Nancy Murphy, Eduardo R. Cruz, Willem B. Drees and Vila-Chã himself.

Another interesting work published in Portugal that addresses faith and science is *Porquê Deus se Temos a Ciência?* (2009), coordinated by Manuel Curado, professor at the Universidade do Minho. The book gathers a set of arguments that could help to answer the question of whether the supposed incompatibility between religion and science is circumstantial or constitutive. The following scholars collaborated: Álvaro Balsas, Sofia Reimão, Francisco Teixeira, Paulo Alexandre e Castro, Alfredo Dinis, and Artur Galvão e Miguel Vieira. The book also includes Curado's «O Futuro de Deus».

It is also interesting to outline the significant enterprise of the research group Science, Philosophy and Theology in Confrontation and Dialogue from the Centro de Estudos Filosóficos e Humanísticos (CEFH) ascribed to the Philosophy Faculty of Braga, again part of the Catholic University of Portugal. Its members are Alfredo de Oliveira Dinis, Álvaro Manuel Rodrigues Balsas, Ivo Chelo, João Carlos de Matos Paiva, João Carlos Onofre Pinto, José Miguel Stadler Dias Costa, Miguel Oliveira Panão, and Paulo Eusébio. Among them, the pioneer work of their coordinators, Alfredo de Oliveira Dinis and, more recently, Álvaro Balsas, is worth mentioning. Alfredo Dinis (1952–2013) received his doctorate from Cambridge University (1989) with the thesis *The Cosmology of Giovanni Battista Riccioli (1598–1671)* and received a degree in fundamental theology with a thesis on *Science and Religion in Ian Barbour*. He was Head of the Faculty of Philosophy of Braga from 1994 until his death and President of the Sociedade Portuguesa de Ciências Cognitivas. His research fields were, in addition to cognitive sciences, the issues related to the faith–reason dialogue. Álvaro Balsas is Professor of the Faculty of Philosophy of the Catholic University of Portugal, in Braga, where he teaches, among other subjects, philosophy of nature, Christianity, and culture. He holds a

PhD in philosophy of science, with a thesis on *Realismo e Localidade em Mecânica Quântica*. He studied theology in Madrid and Berkeley and received a master's degree with a thesis on *Divine Action and the Laws of Nature: An Approach Based on the Concept of Causality Consonant with Contemporary Science*. His main research is on the fundamentals of quantum mechanics, philosophy of science, and philosophy of religion. He edited a special issue of the *Revista Portuguesa de Filosofia* titled *Ciência e Filosofia em Encontro / Science and Philosophy: Encounters* (2012).

On October 18, 2008, the CEFH organized a Conference on Faith and Science titled *O Avanço da Ciência e o Recuo de Deus: fronteiras do conhecimento*. The physicist Antonio Fernández-Rañada analyzed the possibilities of scientific knowledge, and the philosopher Desidério Murcho addressed the possibilities and limits of critical rationality. Two other lectures were given, by the biochemist Ludwig Krippahl and the physicist Agustín Udías. In 2012, the proceedings of that conference were published (Balsas 2012). In its preface, organizer Álvaro Balsas states that the conflict between science and faith is due to a wrong understanding of the limits of each side. In October 2011, the CEFH organized a second conference on Faith and Science titled *Deus, acaso e determinismo*.

#### CONCLUDING REMARKS

Summarizing the results of this brief report about the relationships among science, religion, and theology in Italy, Spain, and Portugal, a growing awareness and a steady progress can be observed, more evidently so in the last few years. However, the process has been very slow, delayed, and mostly isolated; indeed, some ambiguities still persist in this particular environment.

The described panorama is surely rich and encouraging, a symptom of a growing mentality that pays more and more attention to the effects of science on theological development and the lived faith in societies highly informed by scientific views. This is especially remarkable when the interest displayed by several pontifical and Catholic universities in Italy, Spain, and Portugal is taken into account. At least five of the Roman universities host—or have hosted—research programs focused on aspects of the dialogue among science, philosophy, and theology. This process is also noteworthy in Spain but is more uneven; only a few academic Catholic institutions seem to be involved in such projects.

However, the risk concealed behind all this activity is that it might become just an independent research field with scarce contact with the standard theological curriculum and the body of academic research. Indeed, there remains little data that suggest that science is a substantial context for theological development, as philosophy has been for many centuries, or that the issues raised by science might enter the regular curriculum of

theological studies. Theology handbooks and general essays rarely discuss the effects or consequences of scientific developments and the extension of a more scientific mindset. Books on these aspects are rather specialized or essays that address minor aspects and are focused on this special dialogue. Many biases regarding science are still held by theologians, preventing a more positive reception. Observing the current situation, it is clear that there is still a long way to go.

In our opinion, part of the problem is methodological, and ensues from difficulties in the usual elaboration of theological research. In a nutshell, Catholic theology in Southern Europe has traditionally ignored the empirical and pragmatic approaches that are paramount for scientific development, and that trend has been shared by most continental theology. The more speculative, aprioristic, idealistic, or transcendental methods have prevented a fruitful closeness to science and its inputs. The hope is that this lack of interest will change in the coming years and that the reception of science will be much broader, not just a niche of specialized dialogue but a true inspiration and a continuous challenge for theological work, as it is becoming in other cultural areas. More than apologetic strategies, a true dialogue could provide many elements for an updating of the theological presentation of Christian faith. After all, although science closes many front doors to traditional theology, it simultaneously opens rear doors and new windows, allowing for a richer landscape and fresh air into the rooms of faith.

## NOTES

1. From the webpage of the *Associazione Italiana Teilhard de Chardin*: <http://www.teilhard.it/storia.htm>

## REFERENCES

- Ancona, Giovanni, ed. 1995. *Cosmologia e antropologia. Per una scienza dell'uomo*. Atti del Convegno di studi dell'Associazione teologica italiana. Padova: Edizioni Messaggero.
- Artigas, Mariano. 1984. *Ciencia, razón y fe*. Madrid: Ediciones Palabra.
- . 1985. *Las fronteras del evolucionismo*. Madrid: Ediciones Palabra.
- . 1999. *The Ethical Nature of Karl Popper's Theory of Knowledge: Including Popper's Unpublished Comments on Bartley and Critical Rationalism*. Berne: Verlag Peter Lang.
- . 2001. *The Mind of the Universe: Understanding Science and Religion*. West Conshohocken, PA: Templeton Foundation Press.
- . 2006. *Knowing Things for Sure: Science and Truth*. Lanham, MD: University Press of America.
- . 2007. *Ciencia y Religión. Conceptos fundamentales*. Pamplona, Spain: EUNSA.
- Artigas, Mariano, and Karl Giberson. 2006. *Oracles of Science: Celebrity Scientists Versus God and Religion*. New York: Oxford University Press.
- Artigas, Mariano, Thomas F. Glick, and Rafael A. Martínez. 2006. *Negotiating Darwin: The Vatican Confronts Evolution, 1877–1902*. Baltimore, MD: Johns Hopkins University Press.
- Artigas, Mariano, and Melchor Sánchez de Toca. 2008. *Galileo y el Vaticano. Historia de la Comisión Pontificia de Estudio del Caso Galileo (1981–1992)*. Madrid: Biblioteca de Autores Cristianos (BAC).

- Artigas, Mariano, and William R. Shea. 2003. *Galileo in Rome: The Rise and Fall of a Troublesome Genius*. New York: Oxford University Press.
- . 2006. *Galileo Observed: Science and the Politics of Belief*. Sagamore Beach, MD: Science History Publications.
- Artigas, Mariano, and Daniel Turbón. 2007. *El Origen del hombre. Ciencia, Filosofía y Religión*. Pamplona, Spain: EUNSA.
- Auletta, Gennaro, and J. Santiago Pons, eds. 2013. *Si può parlare oggi di una finalità dell'evoluzione?* Rome: G&B Press.
- Balsas, Álvaro, ed. 2012. *Ciência e Filosofia em Encontro / Science and Philosophy: Encounters. Revista Portuguesa de Filosofia* 68, Fasc. 1–2.
- Bisogno, Paolo, ed. 1994. *Le religioni di Abramo e la scienza*. Milano: Franco Angeli.
- Brancato, Francesco. 2009. *Creazione ed evoluzione. La grammatica di un dialogo possibile alla luce della riflessione di Joseph Ratzinger*. Troina, Italy: Citta Aperta.
- Brancato, Francesco, and Piero Benvenuti. 2013. *Contempla il cielo e osserva. Un confronto tra teologia e scienza*. San Paolo, Italy: Cinisello Balsamo.
- Brancato, Francesco, and Ludovico Galleni. 2014. *L'atomo sperduto. Il posto dell'uomo nell'universo*. San Paolo, Italy: Cinisello Balsamo.
- Briguglia, Alfio, and Giuseppe Savagnone. 2010. *Scienza e fede: la pazienza del dialogo*. Torino, Italy: Elledici.
- Cenci, Anna M. 2005. *Dalla scienza alla fede. Evoluzione o creazione?* Milano: Gribaudi.
- Curado, Manuel, ed. 2009. *Porquê Deus se Temos a Ciência?* Porto, Portugal: Fronteira do Caos.
- Danna, Valter, and Alberto Piola, eds. 2009. *Scienza e fede: un dialogo possibile? Evolucionismo e teologia della creazione*. Torino, Italy: Effata.
- D'Onghia, Nicola. 2011. *Il concetto di anima tra neuroscienze e teologia*. Roma: Lateran University Press.
- Dürr, Peter, and Raimon Panikkar. 2008. *Liebe-Urquelle des Kosmos: Ein Gespräch Über Naturwissenschaft Und Religion*. Freiburg, Germany: Herder.
- Facchini, Fiorenzo. 2005. *È l'uomo venne sulla terra. Creazione o evoluzione?* San Paolo, Italy: Cinisello Balsamo.
- . 2006. *L'avventura dell'uomo: Caso o progetto*. San Paolo, Italy: Cinisello Balsamo.
- García Doncel, Manuel. 2001. *El diálogo teología-ciencias hoy. I. Perspectiva histórica y oportunidad actual*. Barcelona: Cristianisme i Justícia.
- . 2003. *El diálogo teología-ciencias hoy. II. Perspectivas científica y teológica oportunidad*. Barcelona: Cristianisme i Justícia.
- . 2004. "The Kenosis of the Creator and of the Created Co-Creator." *Zygon: Journal of Religion and Science* 39: 791–800.
- . 2007. "Teología de la evolución (I): La autotranscendencia activa, Karl Rahner 1961." *Pensamiento* 63: 783–814.
- . 2008. "Teología de la evolución (II): "La llamada creadora trinitaria, Karl Schmitz-Moormann 1997." *Pensamiento* 64: 605–36.
- . 2009. "Teología de la evolución (III): El Espíritu Santo como fuente de la novedad emergente, Denis Edwards 2004." *Pensamiento* 65: 623–67.
- Giannoni, Paolo, ed. 1993. *La creazione: Oltre l'antropocentrismo*. Atti del Convegno di studi dell'Associazione teologica italiana. Padova: Edizioni Messaggero.
- Gismondi, Gualberto. 1993. *Fede e cultura scientifica*. Bologna: EDB.
- Maestrello, Francesca. 2008. *L'accoglienza delle idee di Pierre Teilhard de Chardin nella cultura italiana negli anni 1955–1965*. PhD thesis, open access: <http://www.biosferanoosfera.it/uploads/files/ccd8670c88b48b6e63d9a375fcf991297236a954.pdf>
- Mantovani, Mauro, and Marilena Amerise, eds. 2008. *Fede, cultura e scienza. Discipline in dialogo*. Vatican City: Libreria Editrice Vaticana.
- Maraldi, Valentino, ed. 2004. *Teologie della creazione e scienze della natura*. Bologna: EDB.
- Monserrat, Javier. 2010. *Hacia el nuevo concilio. El paradigma de la modernidad en la Era de la Ciencia*. Madrid: San Pablo.
- Navarro, Jaume, ed. 2013. *Science and Faith within Reason: Reality, Creation, Life and Design*. Farnham, UK: Ashgate.
- Olimi, Antonio. 2008. *Il peccato originale tra teologia e scienza*. Bologna: ESD.
- Panikkar, Raimon. 2005. *La porta stretta de la conoscenza. Sensi, ragione e fede*. Milano: Rizzoli-RCS Libri.

- Paris, Leonardo. 2012. *Sulla libertà. Prospettive di teologia trinitaria tra neuroscienze e filosofia*. Roma: Citta Nuova.
- Possenti, Vittorio, ed. 2003. *La questione della verità. Filosofia, scienze e teologia*. Roma: Armando.
- Quagliariello, Gaetano, ed. 2007. *Religione, scienza e la prova della ragione*. Siena, Italy: Cantagalli.
- Rondinara, Sergio. 2007. *Interpretazione del reale tra scienza e teologia*. Roma: Citta Nuova.
- , ed. 2013. *L'intellegibilità del reale. Natura, uomo, macchina*. Roma: Citta Nuova.
- Ruiz de la Peña, Juan Luis. 1983. *Las nuevas antropologías. Un reto a la teología*. Santander, Spain: Sal Terrae.
- Runehov, Anne, and Lluís Oviedo, eds. 2013. *Encyclopedia of Sciences and Religions*, 4 vols. Berlin: Springer.
- Sanna, Ignazio. 1996. *Fede, scienza e la fine del mondo*. Brescia, Italy: Queriniana.
- Scalmana, Gabriele. 2010. *Teologia e biologia*. Brescia, Italy: Morcelliana.
- Serafini, Filippo, and Piero Benvenuti. 2013. *Genesis e Big Bang. Paralleli convergenti*. Assisi, Italy: Cittadella.
- Tanzella-Nitti, Giuseppe. 2003. *Teologia e scienza. Le ragioni di un dialogo*. Milano: Paoline.
- Tanzella-Nitti, Giuseppe, and Alberto Strumia, eds. 2002. *Dizionario Interdisciplinare di Scienza e Fede. Cultura scientifica, filosofia e teologia*, 2 vols. Roma: Città Nuova.
- Udías, Agustín. 2010. *Ciencia y religión. Dos visiones del mundo*. Santander, Spain: Sal Terrae.
- Vila-Chã, João J., ed. 2007. *Filosofia e Ciência / Philosophy and Science. Revista Portuguesa de Filosofia* 63, Fasc. 1-3.
- Visentin, Stefano. 2011. *Teologia e scienza moderna. Lungo la via del dialogo*. Roma: Bonnano.