

# HOW THE NEW SCIENTIFIC STUDIES OF RELIGION IMPACT ON FUNDAMENTAL THEOLOGY

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**ABSTRACT:** Fundamental theology can be conceived in different ways and styles. The most extended and successful model offers a deep engagement with the study of Revelation and builds on it as the most solid basis for theological development. An alternative model assumes a more apologetic stance and tries to better assess what contributes and what hinders Christian credibility. Inside this second model, recent scientific research on religion becomes relevant, in both senses of the apologetic attention: as a critical approach rising many doubts and, in a positive way, as such developments invite to dialogue and can assist in better knowing about the formation of beliefs and religious attitudes. All this certainly demands focused attention from a Fundamental Theology conceived more as a “theology from below”, or assuming current challenges and opportunities.

**KEYWORDS:** Fundamental Theology, Scientific Study of Religion, Cognitive Science of Religion, Apologetics, Evolutionary Religious Cognition.

**RIASSUNTO:** La Teologia fondamentale può essere concepita secondo modi e stili diversi. Il modello più diffuso e di successo è caratterizzato da un impegno profondo nello studio della Rivelazione, per fare di essa la base più solida per lo sviluppo teologico. Un modello alternativo assume una posizione più apologetica e cerca di valutare meglio ciò che favorisce e ciò che ostacola la credibilità della fede cristiana. All'interno di questo secondo modello, la recente ricerca scientifica sulla religione diventa rilevante per l'apologetica, in due sensi: come approccio critico che pone molte questioni e, in senso positivo, in quanto tali sviluppi invitano al dialogo e possono aiutare a comprendere meglio la formazione delle credenze e degli atteggiamenti religiosi. Tutto ciò merita certamente un'attenzione mirata da parte di una Teologia fondamentale concepita maggiormente come “teologia dal basso”, ovvero capace di assumere le sfide e le opportunità attuali.

**PAROLE CHIAVE:** Teologia fondamentale, Studio scientifico della religione, Scienza cognitiva della religione, Apologetica, Cognizione religiosa evolutiva.

SUMMARY: I. *Introduction*. II. *Fundamental Theology Recovers its Apologetic Origins and Vocation*. III. *Learning from the Scientific Method in the New Study of Religion*. IV. *Theologically Relevant Contents in Cognitive and Evolutionary Sciences of Religion*. V. *Concluding Remarks*.

## I. INTRODUCTION

Several theologians, including of course our colleague Giuseppe Tanzella-Nitti, have in recent years ventured into a committed dialogue with scientific developments. Such an engagement has given rise to a sub-discipline, “Science, Religion and Theology”, with specialised journals, book series, specific courses and a considerable bibliographical production. We can speak of a growing tradition that has seen different styles, proposals and developments in many directions for at least half a century. This engagement has been more intense in the fields of physics and cosmology, biology and neuroscience. It is less clear when science becomes more interested in the study of human beings, and still less when it seeks to explore the religious mind and behaviour. Theology can be somewhat embarrassed by the new scientific approaches to religion, as our colleagues try to unravel the mysterious world of beliefs and attitudes in which theologians are involved. It is as if we are trying to come to terms with ourselves when we enter the troubled waters of the scientific study of religion. There is almost a ‘conflict of interest’ in trying to engage with colleagues who happen to be studying ourselves and our own beliefs.

However, this difficulty should not prevent theologians from dealing with this new brand or sector in the study of religion. In fact, religion has been the object of scientific research for at least fifty years, both in the sociology and in the psychology of religion, using a decidedly scientific method, that is, a method based on the collection of empirical data, their analysis using the best statistical tools, and their interpretation within the strongest theoretical framework, the one that provides more heuristic power.

The most recent additions to the scientific study of religion are: the cognitive approach, which tries to describe the mental structures and biases that allow the formation of religious beliefs and perceptions; the biological and evolutionary approaches, which observe religion as a cultural expression that helps subjects, groups and populations to better adapt themselves; and the therapeutic approach, which tries to unrav-

el the links between religion, health and well-being. These fields have grown over the last 20 years, with hundreds of new publications, their own specialised conferences, and the emergence of departments and research programmes that focus on these issues, always using a scientific methodology. This new body of research contributes to what can be called the non-theological study of religion.

Since it is non-theological, we might be suspicious of its interest and value for theologians, even for those working in the field of Fundamental Theology (henceforth: FT), a theological branch that could be more focused on exploring foreign territories and looking for alternative approaches to religion and faith. In fact, the theological reception of these studies is scarce, if not completely neglected. Most theologians, including those in FT, pay very little attention to what is going on in these fields, whose theories and views on religion they probably do not understand, despite their claims that they can explain religion much better than those who profess and live it. I have been attending several conferences on these issues, feeling quite like an orphan and a lonely theologian in the middle of a rather wild and threatening territory.

My experience over many years of interacting with cognitivists and evolutionists who study religion has been varied, sometimes negative, on other occasions positive and constructive. Surely FT can learn from this academic endeavour, even if it might involve some risks and disappointments, as I will try to make more explicit. In any case, this programme tries to follow the advice given by Pope Francis in his document *Veritatis Gaudium*, which reassesses the program for theology to move on, to explore alternative areas beyond a self-referential model, and to engage with other disciplines and studies in an attempt to learn and become more relevant in a very different cultural and academic milieu.

In keeping with the proposed title, this paper aims at providing an account or assessment of what FT can learn from all the research developed over the last 20 years in cognitive and evolutionary approaches to religion, which often go hand in hand and are quite well established. This account will, firstly, be cautious about apologetic issues; secondly, it will focus on the methodological aspects that can offer some lessons for theologians. The third level of the proposed analysis will deal with contents or developments that could be of interest for this theological field. More specifically, I propose to pay more attention to the following

issues: the cognitive conditions associated with the experience of believing; the question of the evolution of religious beliefs or religious culture; issues of intuitive and reflective religious cognition; embodied and embedded religion. The stated aim is to assess the extent to which this field of research can be useful for a theology that seeks to better understand the conditions that affect the credibility of the Christian message, and to check whether these sciences can help to better clarify our own view of this faith.

## II. FUNDAMENTAL THEOLOGY RECOVERS ITS APOLOGETIC ORIGINS AND VOCATION

FT was born out of the remnants of traditional apologetics, a theological discipline with its own identity and style, and a long history or tradition. Unfortunately, after the Second Vatican Council, such a model was abandoned or deemed unworthy of an updated theological programme, more focused on revelation and less concerned with cultural developments, debates and struggles, or on addressing those who criticised or contested the Christian faith and its doctrines. This decision does not mean that our faith is no longer challenged or criticised; such an attitude would reveal a form of “magical thinking”: because one no longer considers it necessary to engage in an apologetic style, the threats and voices against the Christian faith have become insignificant or irrelevant, no longer posing a threat. I am still not sure what reasons convinced our colleagues of the sixties and seventies to abandon the apologetic dimension of theology in general, and even more so of FT in particular, at a time when it was more needed than ever, when the challenges facing the faith were increasing and several fronts were opening up at the same time: in the social and cultural field, as secularisation trends spread; in the historical and critical revision of the Church’s past and its mistakes; in the tensions with other religions and spiritual forms; in the growth of a cultural environment hostile to faith; and, not least, in the tensions with science and its cultural dominance. Why was the FT absent from all this urgent work of addressing all these issues that made the Christian message less credible? Considering these questions, a first task in the proposed interaction is to discern what is really relevant to theology in all the immense production of the cognitive sciences, even when applied to religion.

For those who are still convinced that apologetics is a major concern of FT, there are not a few issues to engage with, and certainly the area of “science, religion and theology” is one that keeps the more engaged part of theology busy. This claim does not imply an exclusively defensive position on our part, but one that involves – as with any good apologetics – a richer use of new arguments to make the case for Christian faith and its updated relevance. This is certainly the case with the cognitive and evolutionary sciences applied to the study of religion: there are many versions that have tried to reduce religion to simple mental dynamics or adaptive strategies, forgetting many other aspects of a very complex and multifaceted phenomenon that can hardly be reduced to a single aspect. Moreover, in several cases, some colleagues have used this new axiomatics to discredit religious beliefs, reducing them to mere sub-products of our normal mental activities, or expressions that lack cognitive content.<sup>1</sup>

The proposed engagement at an apologetic level is a first step in a process that tries to take these developments into account, or avoids ignoring them as irrelevant to us because their approach to religion seems so poor and disappointing. It would be wrong to neglect these new developments on religion and their attempts to explain religious belief. One reason is that these ideas have become more than academic, and have even been used to openly criticise religion, as in the case of Daniel Dennett.<sup>2</sup> If our colleagues manage to offer more convincing explanations of religion than, let’s say, the theologians and philosophers, then we have a big problem.

Confidence in the value of one’s own tradition is not good advice at a time when religion and Christian faith are the subject of intense scrutiny and a desire to control what might appear to be too wild a social and spiritual phenomenon. Such a feeling justifies some attempts to tame religion, which at the same time require a better analysis and knowledge in order to serve this purpose. It would be wrong, however, to adopt a purely defensive attitude in order to counter such an impoverished and reductive view. The apologetic stance always offers the

<sup>1</sup> J. BERING, *The God Instinct: The Psychology of Souls, Destiny, and the Meaning of Life*, Nicholas Brearley, London 2011, 6.

<sup>2</sup> D.C. DENNETT, *Breaking the Spell: Religion as a Natural Phenomenon*, Viking, New York 2006.

possibility of defending the Christian faith against alternative proposals, or of playing the rational game developed by our colleagues, that of showing how the Christian faith transcends and becomes the right way to give meaning and hope.

The apologetic fronts opened by the cognitive and evolutionary sciences of religion are several, as are our strategies for dealing with them. The main one, for example, is the one already mentioned, in which they try to explain away religion as a secondary and sometimes parasitic mental activity, of little or no use and far from providing a correct account of reality. FT needs to answer this critical question in order to show that the Christian faith claims to be true insofar as it offers an account of God, man and the world that is more in tune with an integral view of reality, with recent developments in science, with ethical concerns, and with a programme aimed at sustainability. We must be clear about the cognitive content of the Christian faith, and avoid falling into the trap of our colleagues who point to its secondary value. We can draw on the best writers in the field of philosophy of religion, such as Richard Swinburne or Alvin Plantinga, among many others, who have built strong cases and arguments for the Christian faith and its central tenets. Indeed, the emphasis on cognitive content becomes a reminder, in terms of reductive positions, of the great difference that confessing that Christ is risen and alive makes in contrast to opposing positions. The point is that – in contrast with the most reductive versions of cognitivists – the central contents of Christian faith make a difference in the lives and values of those confessing them; they are by no means secondary, as they can sign the change from a meaningless life to a life full of meaning and purpose.

This is perhaps the most important apologetic issue, but there are several others. To mention just a few: regarding the freedom to believe, or that believing is not just something automatic and determined; regarding the reflexive aspects of believing, beyond the intuitive and quick thinking models, prone to error and overrepresentation, that are often applied in this field;<sup>3</sup> or the issue of the deep dependence of Christian

<sup>3</sup> LL. OVIEDO, *Religious Cognition as a Dual-Process: Developing the Model*, «Method and Theory in the Study of Religion» 27-1 (2015) 31-58; <https://doi.org/10.1163/15700682-12341288>.

faith on neural and cognitive circuits, ignoring other dimensions that are necessarily involved in this activity in a more holistic way.

The apologetic stance can draw on a repertoire of strategies. The most important of these take place within their own field and play the same game. For example, we must pay more attention to the scientific quality of their developments. Sometimes the empirical evidence they present is rather scarce and exaggerated. Then their analysis cannot pass more stringent tests of the scientific method. Their conclusions often imply some extra-limitation with respect to the limits of scientific rules, or are just hypotheses; and quite often the theories that support their models are partially outdated, as is the case with computational models of the mind; or some theories of human evolution that have served to cement their programmes.

### III. LEARNING FROM THE SCIENTIFIC METHOD IN THE NEW STUDY OF RELIGION

FT is concerned with the theological method, and with determining the best ways to access the content of Christian revelation and the experience of faith, so that it continues to make sense in different historical stages and cultural contexts. This method can be renewed, and nothing excludes trying alternative approaches to its subject and learning from other disciplines that apply their specific ways of knowing religious phenomena.

Theology can perceive the approach to religion of cognitivists and evolutionists as somewhat peculiar and far removed from its own methodology. A first contrast can be seen between the bottom-up approach of most scientific methods and the mostly top-down approach of theology. The question is to what extent theology can change its perspective and learn from the alternative ways of approaching religion. For example, a recent tendency has been to explore so-called “lived religion”, or to get closer to the lived experiences of people who feel their religious beliefs and practices in particular ways.<sup>4</sup> There is some talk of “lived theology”, but it is still a rather limited tendency, often linked to liberation or political theologies;<sup>5</sup> much more is needed to broaden it.

<sup>4</sup> N.T. AMMERMAN, *Studying Lived Religion; Contexts and Practices*, New York University Press, New York 2021.

<sup>5</sup> C. MARSH, P. SLADE, S. AZARANSKY (eds.), *Lived Theology: New Perspectives on Method*,

Theology can learn from the alternative methods used in cognitive and evolutionary studies of religion. The main principle that guides such an approach is the need to construct the best explanations based on empirical evidence and a constant process of testing and experimenting with hypotheses, within a perspective that assumes a high degree of fallibility, or the need to revise and correct what does not work or does not find sufficient evidence. This approach may seem far removed from the theological method, which almost always proceeds as a hermeneutical exercise on canonical texts or classics of theological production. We can interrogate these texts from the past in search of answers to our present questions and challenges, expecting that the wisdom accumulated in them will provide us with insights for dealing with our present problems. In general, theological production does not engage in an analysis of the empirical conditions in which Christian faith is lived or encounters major setbacks and difficulties.

The question of the possibility of designing a theology more “from below” and inspired by the programme of “lived religion”, and of its usefulness and application, is still open. There are some attempts, mostly in the field of practical theologies, which use empirical methods to better understand how Christian faith can be proclaimed and lived in uncertain environments. This programme gathers followers in a dedicated society, the *International Society for Empirical Research in Theology* (IS-ERT), which meets every two years in a European country. But we are a long way from convincing mainstream theology of the viability and goodness of such methods, and I am not sure that the cognitivists will help us to learn how to better use such methods and how to better approach lived religious experience. However, we can learn some lessons from our colleagues who are so far from standard theology.

A first lesson, already mentioned, relates to the fallibility principle, or the idea that theories can have a short life if they are unable to gather sufficient empirical or experimental evidence. I recently attended a conference of the *International Association for Cognitive and Evolutionary Science of Religion* (IACESR), and a colleague, Robert Ross, spoke about “zombie theories” in the field, or theories that, like the walking dead, are still cited and enjoy some recognition, even though they have been rejected

*Style, and Pedagogy*, Oxford University Press, New York 2017.



because of their lack of evidence or because of the flaws discovered in the analyses they have been subjected to. In theology we are very far from this critical attitude. It is difficult for us to identify theological proposals that do not pass the test of evidence and even of some kind of empirical checks or controls, and that should be discredited as useless for a living theology. A few examples may illustrate what I mean. The first concerns the flawed attempts to deal with secularisation in several theologies in the sixties and seventies, which left their mark for several decades. These views invited a positive reception of the secularisation process and were incapable of perceiving its very negative consequences and of critically preventing a naïve approach. Indeed, theology in those years was ill-prepared to deal with and cope with secularisation, among other things because it misunderstood its negative effects; because of its speculative method and its unwillingness to learn from sociological descriptions that could alert us to such negative trends. A similar dynamic of misperception could be seen in very liberal theologies, unable to deal with religious decline in Western areas; or in political theologies, poorly inspired by flawed theories and lacking field work on populations that could suffer more. The extreme cases of truly deadly theologies, such as those that came to justify and even support Nazism, Fascism or Communism, could teach us about the risks that theology runs when it forgets its intrinsic fallibility, the need to constantly reassess its effects, and the call to revise and correct what has gone wrong. As a result, several theological developments in different areas have led to confusion and wasted energy.

The big question that still looms within FT is to what extent methods based on observation, measurement, testing, and open to failure and correction can become normative for those who apply a broad hermeneutical approach. Even in this case, the risks of ‘over-interpretation’ are relevant and should alert us to the need to refine the theological method.<sup>6</sup>

The other big question is how we can integrate empirical data into a theological discourse. We can also learn from our neighbours in these parallel attempts to explain religion. We learn from the methods of the

<sup>6</sup> I.A. REED, *Social Theory and Overinterpretation*, «Distinktion: Journal of Social Theory» 25-2 (2023), 183-207; <https://doi.org/10.1080/1600910X.2023.2258289>.

social sciences how to collect data in the right way, taking care to get a representative sample; how to avoid bias, taking care of the ethical issues – now very demanding in any research with humans; and how to analyse them in the right way, using the best available tools – statistical and otherwise. Then we need to distinguish between different theoretical frameworks. It is important to be aware of what we are looking for, and probably the theological interests and aims are quite different from those that govern the research programmes of social scientists, cognitivists and biologists applied to human behaviour. However, it would be interesting to maintain some methodological points, such as starting our research with one or more questions, making explicit the issues that guide our search, formulating some hypotheses, and then designing the research in a way that allows us to answer or verify these hypotheses.

For example, we can test the extent to which religious beliefs and practices are related to empathy, and which religious styles are more associated with this feeling. We can design an instrument or questionnaire using different standardised scales to measure the variables we want to assess, such as religiosity, spirituality and empathy or prosocial attitudes. We will then select our target population to distribute this questionnaire and collect the data that will allow us to carry out a focused analysis, taking into account the questions that we have previously defined. So far, everything could be seen as not being specifically theological. Theology intervenes at the level of interpretation once the data have been analysed, and so, depending on the results, we can develop a more accurate Christian anthropology that takes stock of these data and better describes the human condition, created in the image of God, failed and redeemed by grace.

A great advantage of using a more rigorous scientific method is that it allows us theologians to enter into conversation with our colleagues in those other disciplines that deal with religion, to try to explain it better. If we cannot show data and accurate analysis, then it would be harder to be listened by those who play a different game and who care less about old traditions that are less authoritative to them than they are to us. And we can build a theology more “from below”, better acquainted with the lived experience of Christians, and therefore more meaningful and closer to reality.

#### IV. THEOLOGICALLY RELEVANT CONTENTS IN COGNITIVE AND EVOLUTIONARY SCIENCES OF RELIGION

It is not only the method used in these sciences that becomes interesting for a more engaged theology, but several contents or motives can arouse theological interest and lead to useful applications. As already mentioned, the main topics to be considered are: the cognitive conditions associated with Christian faith and belief; the question of the evolution of religious beliefs or religious culture; questions of intuitive and reflective religious cognition; and religious cognition, embodied and embedded.

##### *a. Belief and Believing*

Faith as a disposition to believe and trust belongs to FT, which seeks to understand it as the foundation of all theology and works to improve the conditions that make the Christian message credible. This theme overlaps to some extent with current research in the cognitive science of religion, which is very interested in the formation of religious beliefs and in explaining how humans have a natural tendency to adopt such representations of “supernatural agents”. But the focus is quite distant. For theologians, this ability is an anthropological trait that makes us attuned to divine revelation and capable of accepting its salvific message. For cognitivists, this ability is often not so much a strength as a weakness or a limitation, in the sense of a mental activity that tends to generate over-representations of mysterious agents when we lack other explanations for phenomena beyond our grasp. On one point both sides agree: human beings are capable of conceiving religious ideas or attributing transcendent causes to the natural order; but the extent to which this capacity might be useful is another issue. Well, for many writers the usefulness has nothing to do with the religious or symbolic realm, but only, following a Durkheimian inspiration, with the social need for greater cohesion and increased moral commitment to one another.<sup>7</sup>

But here we can find a kind of “exaptation”, in the sense that theories born in another disciplinary realm and for another interest and

<sup>7</sup> For an overview on this relationship, see: LL. OVIEDO, *Religious Attitudes and Prosocial Behavior: A Systematic Review of Published Research*, «Religion, Brain & Behavior» 6-2 (2015) 169-184; <https://doi.org/10.1080/2153599X.2014.992803>.

reason can find new life and application in another discipline, such as theology; and so theologians can receive the wisdom of the cognitivists to make the case for a human propensity to become religious or to transcend the material world. What is suspect in one realm becomes virtuous in the other, provided that we theologians are able to rescue these somewhat tainted views from our colleagues and are willing to show that such cognitive capacities enable us to transcend and to gain resilience and greater hope, or to perceive reality in a deeper, more meaningful and more beautiful way.<sup>8</sup> The question is what we gain when we are able to transcend and become religious, and what we irretrievably lose when we lack this capacity.

The mental processes that provide access to transcendence are still being explored, and theories succeed and fail, with no clear solution. In the first wave, cognitivists pointed to a “hyperactive sense of agency” and the important role played by “theory of mind” or our innate ability to “read” other people’s minds and intuit their state of mind and humour. By combining these two mental faculties, we would be more likely to recognise “divine agents” with their own minds and intentions. However, there is little empirical evidence to support such theories. For example, some studies of people on the autistic spectrum, who typically suffer from an impairment in their ability to “read” other people’s minds, are on average as religious as neurotypical subjects.<sup>9</sup>

Recently, other theories have been added, such as that of “predictive coding”, or the ability to anticipate future states and to adapt to that anticipation. Apparently, this ability can be linked to our tendency to include the divine in this scenario in order to make it less unpredictable. Another recent addition compares religion to an imaginative game similar to “let’s believe”, capable of generating an alternative mental map that could represent some functionality at the social level.<sup>10</sup>

<sup>8</sup> J. BARRETT, *Why Would Anyone Believe in God?*, AltaMira Press, Walnut Creek 2004; IDEM, *Cognitive Science, Religion, and Theology: From Human Minds to Divine Minds*, Templeton Press, West Conshohocken 2011.

<sup>9</sup> Again for an overview: L. EKBLAD, LL. OVIEDO, *Religious Cognition Among Subjects with Autism Spectrum Disorder (ASD): Defective or Different?*, «Clinical Neuropsychiatry» 14-4 (2017) 287-296.

<sup>10</sup> VAN LEEUWEN, *Religion as Make-Believe: A Theory of Belief, Imagination, and Group Identity*, Harvard University Press, Cambridge 2023.

Probably more helpful to us will be other studies of belief and believing that have moved away from the cognitivists who seek to unravel the mystery of the religious mind. Indeed, in the last 15 years there has been a growing interest in better understanding the process of believing – in general, not just religious believing – in all its complexity.<sup>11</sup> This process is not simply “computational” or the result of some probabilistic calculation, for it also involves emotions, cultural influences and other factors that weigh in this complex process. The point is that theology can learn from such studies and their attempts to better describe the process of believing and to better qualify Christian faith in relation to those other forms of believing that are now more accurately classified.

*b. Cultural Evolution Applied to Faith and Theology*

This is another interesting line of research with profound implications for FT. The idea that cultures evolve, and religions are no exception, might at first sight seem a truism. However, we may not be aware of the implications of such an observation. Many studies in the last 20 years point to the evolutionary and adaptive pressures that affect not only living beings, but also societies and cultural forms. This principle implies that religion must adapt to its own environment as a condition of survival. This claim has served to explain religion from a more biological and evolutionary perspective: religion makes sense in this framework to the extent that it makes subjects and social bodies more adapted, or more able to survive and reproduce in a more secure way. Once religion can be identified as an adaptive factor, it becomes a better understood phenomenon.<sup>12</sup> This could be positive for an engaged theology that seeks to show that religion does more good than harm in most social contexts, having refuted those – such as the New Atheists – who claim the opposite. But it could also smack of an excess of functional reduction, reducing religion to its adaptive functions and missing its own meaning and achievement.

<sup>11</sup> A Good example is the collective book: H.-F. ANGEL, LL. OVIEDO, R.F. PALOUTZIAN, A. RUNEHOV, R.J. SEITZ, *Processes of Believing: The Acquisition, Maintenance, and Change in Creditions*, Springer, Dordrecht 2017.

<sup>12</sup> J. FEIERMAN, LL. OVIEDO (eds.), *The Evolution of Religion, Religiosity and Theology: A Multilevel and Multidisciplinary Approach*, Routledge, London-New York 2019.

In addition to this critical question, studies of cultural evolution applied to religion and theology become an important inspiration for FT, or a theological gaze that seeks to reflect on its own tradition and elaboration. The point is that, according to this model, religion and its reflexive instance – theology – are subject to evolutive and adaptive pressures, and such a process helps to better follow the internal evolution of revealed texts, the formation of the biblical canon, and the development of Christian doctrine, always following the same paradigm: variations arising from the search for better expressions; selection of those forms that become more suitable and can withstand trials or historical struggles; and stabilisation, which gives rise to new variations, to pursue a continuous process of adaptation and renewal. Indeed, we can look at the history of Christian styles, models and theologies from this point of view: they were variations that found their way to adapt to changing social conditions and were successful in their approach, at least for some time.

Things are probably much more complex. In the first place, as several studies have shown, the process described is not one of mere adaptation to changing conditions, but one of influencing and changing those same conditions in such a way as to interact in ways that are transformative for both sides.<sup>13</sup> In the same way that living beings interact with their environment in order to transform it or make it more suitable, in cultural processes the interaction with our social context often influences the same context and creates new conditions, or “cultural niches”. This search for new forms then sometimes becomes less adaptive or even counter-adaptive, despite its apparent initial success; or what was apparently adaptive for a time later becomes clearly dysfunctional. In any case, the study of cultural evolution applied to religion provides a heuristic framework for better understanding how theology itself has evolved and what factors have been involved in this complex process, something that could help us to make similar attempts in our time, in search of better theological expressions to make our faith meaningful.

<sup>13</sup> K.N. LALAND, *Darwin's Unfinished Symphony: How Culture Explains the Evolution of the Human Mind*, Princeton University Press, Princeton 2017.

*c. Intuitive and Reflective Religious Forms*

Another issue in the cognitive study of religion concerns the different cognitive styles that can be observed in religious thinking and believing. It is well known that our minds operate with different cognitive styles: the first is fast, intuitive, prone to error, but quite efficient at many tasks that require quick reactions; the second is slow, reflective, and more suited to decision making or tasks that require more analysis. This distinction can easily be applied to the religious mind and to our ways of representing reality and introducing transcendent dimensions. It is clear that in many cases this mental activity is almost spontaneous, for example when we invoke God before a perceived danger, or when we represent divine action as punishing or rewarding our bad or good deeds. In other cases, religious beliefs require time and maturation, are nourished by enduring input, and rely on many other means.

This distinction helps to better address several issues in theological development, such as the sometimes difficult tensions between intuitive or spontaneous forms of religious belief and the need for reflective correction and adaptation to a standard Christian view; theology has a role to play at this interface, but it is far from easy and simple. Theological “incorrectness” is a common feature of religious cultures.<sup>14</sup>

This expression comes from what can be considered “theologically correct”, as a result of right and reflected cognition that uses more analysis and resources. The “wrong version” comes from a faster and less reflected religious representation, often fed by cognitive mechanisms that operate in a spontaneous way, such as the attribution of agency. A good example of this is “luck beliefs”, which often become entangled with standard religious beliefs about divine action.<sup>15</sup>

Theology should engage in a more careful activity to be aware of these cognitive difficulties and to have recourse to those cognitive

<sup>14</sup> D.J. SLONE, *Theological Incorrectness: Why Religious People Believe What They Shouldn't*, Oxford University Press, Oxford-New York 2004.

<sup>15</sup> D.J. SLONE, “Luck Beliefs: A Case of Theological Incorrectness”, in *Religion as a Human Capacity*, Brill, Leiden 2004; [https://doi.org/10.1163/9789047401698\\_020](https://doi.org/10.1163/9789047401698_020).

analyses that help to discern what is becoming easier and more costly to believe, in order to ensure means of enforcing a faith that could become more helpful and closer to the truth, beyond simple emotional reactions.

This question becomes more pressing in recent times as we become more aware of the complexities involved in the process of believing, and how religious beliefs appear to be deeply embedded in a dense network of other beliefs and worldviews. It is likely that the distinction between the cognitive styles described is only a start, as this process is made more complex by cultural influences, emotional input, involved memories or current biases. Theology could learn from recent research on these complexities in order to better know and propose the Christian faith and to educate religious or spiritual forms of believing beyond the most immediate and intuitive forms.

*d. Religious Cognition, Embodied and Embedded*

Cognitive science itself is evolving, adapting to new discoveries and changing paradigms in the way we represent human cognition. This evolution is being driven, as we have seen, by an awareness of past theories that have failed to pass the tests of scientific rigour, or have lacked evidence. In this sense, a new cognitive model is slowly opening up, paving the way for a more accurate understanding of religious cognition. This change is inspired by the so-called *4e* cognitive models, the four e's corresponding to the terms: embodied, embedded, enacted and extended.<sup>16</sup> The main idea is that human cognition is better represented as a complex process that involves one's own body, including emotions and our body members; our environment, natural, social and especially cultural; is able to project and change the reality we perceive; and is supported by various external means or ways of enforcing it.

For several years, a minority of scholars have been pursuing this alternative programme and trying to apply it to religious cognition.<sup>17</sup>

<sup>16</sup> A. NEWEN, L. DE BRUIN, S. GALLAGHER (eds.), *Oxford Handbook of 4E Cognition*, Oxford University Press, Oxford 2018.

<sup>17</sup> J. KRUEGER, *Extended Mind and Religious Cognition*, in *Religion: Mental Religion. Part of the Macmillan Interdisciplinary Handbooks: Religion Series* (2016), edited by N.K. Clements, Farnington Hills, Michigan: Macmillan Reference USA.



Such an endeavour means that our access to religious awareness and experience is less limited to some mental operations, similar to some computational mechanisms; and rather becomes the result of a complex system at more levels, and much harder to reduce to simple operations. This point invites us to pay more attention to the internal and external factors that could support religious perception. In this sense, it is clear that emotions play an important role. So do culture and other environmental factors. But perhaps more importantly, such a process is implemented through religious rituals and activities that provide enforcement and make the religious representation “more real”, as Tanya Luhrmann has recently described it in a fascinating book as a clear enactment activity.<sup>18</sup>

The theological implications are quite intuitive: Christian faith cannot be conceived as a purely individual, isolated mental activity, but as an experience deeply rooted in other dimensions and deeply connected with the way we pray and celebrate that same faith, which both nourishes and is nourished by the community and its commitment, the quality or intensity of our liturgies, and the quality of our theological arguments and discourses that seek to update the Christian message and make it more credible.

## V. CONCLUDING REMARKS

Theology can always learn from other approaches to the study of religion. Some lessons are clearly negative: they teach us how not to understand religion, how to avoid reduction, bias and other pitfalls or shortcomings. But there are many positive lessons to be learned from this contact, after taking some risks. After all, as Pope Francis has said, it is better to take risks and even experience failures and mistakes than to repeat the same thing over and over again in the midst of a general religious decline and cultural irrelevance of Christian faith.

What is really disgraceful is a state of affairs in the theological academy in which very few are interested in what is happening in the sciences, in philosophy, and especially in the new scientific study of religion. This is not the case of our colleague Giuseppe Tanzella-Nitti, one of

<sup>18</sup> T.M. LUHRMANN, *How God Becomes Real: Kindling the Presence of Invisible Others*, Princeton University Press, Princeton-Oxford 2020.

the professors of theology I know who has been most involved with science, after his own combination of scientific training as an astrophysicist and his expertise in theology, and very committed to updating and making more credible the Christian proclamation of salvation, as the main task of fundamental theology. His many publications and his constant interest in showing how this message can be given new relevance in a scientifically driven mentality make his contribution highly valuable in the international theological landscape. He is an example to follow and an inspiration to new generations of theologians, and an encouragement to all those who, like me, are engaged in a similar effort of dialogue between theology and science.