Naturalism—as Religion, within Religions, without Religion


RELIGIOUS NATURALISM AND CREATION: A COSMOLOGICAL AND THEOLOGICAL READING ON THE ORIGIN/BEGINNING OF THE UNIVERSE

by Alessandro Mantini

Abstract. According to the reconceptualization of science that emerged in the twentieth century, our approach to nature is changing. There is a calling for an enlarged rationality and for a multilevel analysis of the Cosmos around us, because the reality itself shows new depths and complexities, while new methodologies in the scientific research, such as cross-disciplinary and multi-messenger, are necessary. In this epistemological change of paradigm, escaping from empiricism, mechanistic determinism, reductionism, and relativism, appears “natural” the reference to metaphysics and to theology exactly because we need to get outside and to “open the system” to obtain better and more complete descriptions. Theology, referring to the Revealed Personal God as Trinity and Unity and in particular Christology, mostly with Incarnation, adds the conditions for a “natural” landing in a profound and rich cross-disciplinary study concerning the beginning and origin of the Universe. We will explore these passages for an integrated and encompassing reading of the Universe.

Keywords: beginning; Christology; cosmology; creation; metaphysics; natural; origin; rationality; relationality; universe

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**Introduction**

The challenge of an open rationality receives, in the wake of scientific research, a decisive propulsive thrust starting from the nineteenth century, in correspondence with the fall of some paradigms hitherto considered structural for scientific research itself: observation, determinism, completeness, mechanism, predictability. The duality wave/particle, with Louis-Victor De Broglie in 1924, the indeterminism arising from the outcomes interpretation of the wave equation by Erwin Schrödinger in 1926, and the uncertainty principle by Werner Karl Heisenberg in 1927 are the milestones that reach also the metaphysical sphere starting from the sphere of measurements. The new science has discovered a sort of “ontological principle of uncertainty” that asks for a wider context of reconceptualization of the scientific rationality and of the idea of what is natural and real; within this horizon we will discuss about the relation between Christology and Cosmology regarding the origin/beginning of the Universe. It is in fact around this Singularity that these important challenges are more evident concerning contemporary science and theology.

**The Reconceptualization of Knowledge**

It was starting from Georg Cantor (1845–1918), with his studies on infinity, that were highlighted the paradoxes (statements that go beyond common opinion) referred to the relationship between the whole and the part. Cantor has shown that infinite subsets of the set $\mathbb{N}$ (Natural numbers) have the same power of $\mathbb{N}$ (they are therefore equipotential and it is possible to establish a one-to-one correspondence between their elements). This opens the way not only to an infinite such that a part of it is equipotential to the whole, but also to the discovery of different orders of power of the infinite itself. Cantor had, moreover, the precious insight to place the instance of an Absolute in his theory of sets, where the Absolute collection is not defined in an axiomatic but in a metaphysical form as a guarantee of the ultimate consistency of all sets, so that any entity must belong to the Absolute collection in order to exist. The Absolute as a whole, or closed totality, on the one hand is transcendent, on the other it is necessary for mathematics as a place (collection) in which all noncontradictory ones exist (Basti 2002, 735–36).

A further decisive step was the Kurt Gödel Incompleteness Theorem (1931) which proved that if an axiomatic system at least as rich as arithmetic is consistent then it cannot be complete. In other words, no reasonable mathematical theory, which at least knows how to deal with natural numbers and is free of contradictions, will be able to self-certify its absence of contradictions. Gödel conclusively demonstrated that what is true does not coincide at all and it is more than what is demonstrable. The infinite then recovers, this time in an inviolable way, its transcendent dimension, which cannot be dominated by humans. Furthermore, the
truth is finally restored to its breadth and also to its transcendence, no longer bound to what is demonstrable, but extended to explore different epistemological levels overcoming logical neopositivism and self-referentiality. In other words, it is necessary to leave the axiomatic system to find its foundation, since self-certification of consistency is no longer possible, contrary to what David Hilbert (1862–1943) argued in his attempt to dominate the infinite through a coherent and internally closed mathematization. A logical (mental) system must have recourse to a system of another nature in order to self-ground (Casti and Depauli 2001)!

The third contribution was that of Alfred Tarski (1902–1983), who showed that the notion of truth cannot be captured in the confines of a system, highlighting the impossibility of finding a definition of all the true sentences of a system. In formalized languages (languages whose structure is exactly specified), in order to avoid semantic antinomies, it is therefore necessary to have a meta-language of a higher logical order than the object language. A general formal definition of semantic truth can be obtained only in the case of formalized languages of finite order, while it is impossible to formulate an absolute formal definition of semantic truth in the case of languages of infinite order (Tarski 1944).

Alan Turing (1912–1954) faced Hilbert’s decidability problem, which can be summarized as follows: is it always possible to understand whether a mathematical proposition is true or not? For this, he devised a series of abstract simple Turing Machines and a Universal one, which can simulate the behavior of each specific machine. Studying the properties of the Universal Machine (which is synonymous of a program or algorithm rather than a particular hardware structure), he discovered that the decidability problem has no solution. There is therefore a class of problems in which the Turing Machine is not able to give an answer, that is, it is impossible to establish in a certain and mechanical way the truth or falsity of all the mathematical statements. It is in fact not possible to build a “universal lie detector, capable of generating all possible truths”, that is, “truth is not finitely describable” (Casti and Depauli 2001, 98).

Ludwig Wittgenstein (1889–1951), in the context of the philosophy of language, also contributed to distinguish between the ambition to formalize everything and the complexity of reality that escapes the totalizing grip. In particular, according to his “second” period, he found it impossible, for a formal language, to give an exhaustive account of the world of experience, thus opening the way to new currents of analytical philosophy, in the direction of the transcendence of language. Faced with the imperfect language of the natural sciences, he highlighted the multiple language of everyday life, for which there is no unitary formal structure, as shown by the use of the word that has positional and not essential meanings.

All these steps contribute to define the contemporary change of mentality in the scientific approach to nature and reality.
Cross-Disciplinarity and Multi-Messenger Era

Starting from the experience of amazement and wonder in front of the reality that reveals itself, science therefore opens up to the multiformity of research. Four passages emerge: the first is indicated by the verb “to broaden”, referring to the ethos of scientificity that rejects any closure, and to the concept of expanded reason and its use, with the great questions about Truth and Good. The second refers to the verb “to listen”, for which “the unity of knowledge is no longer experienced as a ‘vision of the world’, but above all as listening to the world” (Tanzella-Nitti 2003, 195–19) according to an ethical and not only a methodological dimension. The third step collects what emerged in the first two, through the verb “to understand” that leaves us in awe in front of an offered and not taken for granted possibility: “One may say: the eternal mystery of the world is its comprehensibility” (Einstein 1960, 292). There is an order in things that favors a vital science (Whitehead 1975, 14), not chaotic and confused, and we therefore need multilevel contributions from the various disciplines, to pick up their unity in diversity, in the horizon of Truth. Finally, the fourth step is represented by looking out on the edge of the “Mystery” as the possibility of a maximum openness and a daring trust. In fact, the mystery “creates the possibility of conceptual enlargement … in the discovery of a higher-order theory … mystery invites engagement, yet resists closure” (McGrath 2019, 186, 201). All this further reveals the preferential choice for rationality rather than irrationality, both in the approach to the natural world and in the reasonable discovery of the Revelation of God the Father in Jesus Christ: “the truly divine God is the God who has revealed himself as logos and, as logos, has acted and continues to act lovingly on our behalf” (Benedict XVI 2006). This Rationality, enlarged by the Mystery and enriched by Love, is therefore configured as the “natural” tension toward what surpasses us.

This is the possible new scientific research method, which we define according to the passage “from fragmentation to fermentation of knowledge”, from a style in which disciplines are faced as islands and scientists as individuals, to the discovery of the existence, in each discipline, of fundamental references to other disciplines even unsuspected in their relations, with the consequent need for a “fermentation” of the acquired knowledges, in the complexity of their interactions and reciprocal correlations and exchange of information. In this renewed context, the scientific community advances as a whole, so that the two innovative paradigms are then:

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\text{Scientific Community} \leftrightarrow \text{Multi-Messenger Era}
\]

in which the multidimensionality of the new integral scientific research emerges both at the level of the researchers and at the level of the
disciplines that must increasingly integrate and dialogue. The theological science founded on the Revelation of a Personal God, One and Triune (unity and plurality), is a necessary discipline in this wide-ranging dialogue. The complexity underlying the reality, far from inducing to an incomprehensible capitulation into simplification and reduction, thus becomes a challenging and compelling call to the “simple” and integral discovery of the scientific and intrinsic relationality of knowledge with a cross-disciplinary method.

This approach to the reality, in the context of broadening the horizons of rationality, requires in fact the attitude of getting outside, the attention to different perspectives (spatial) and levels (epistemic), a multiple-level research in a reality that is a conceptual net with multiple views, representations, methods, depths, perspectives, and rationalities, together with a necessary background reference to the ontological unity of nature (McGrath 2019, 58, 59, 62, 206).

We therefore need to deal with the “foundations” of the reality that, far from limiting the free tension of cross-disciplinary scientific research, strengthens it and guarantees its scientific nature. We note, in fact, how the problem of the foundations has manifested itself, precisely from within the sciences, starting from the expansion of the formal object (with the development of new methods of approaching the object of the sciences) as a consequence of the emergence of further depths of their material object (Strumia 2006, 14).

**Unity— Diversity— Relationality**

We know that “the ability to understand before seeing is the heart of scientific thought” (Rovelli 2017, 20). So, though it seems that we lose the immediate control on such a complex “natural” world, for this very reason unexpected further opportunities are opened up toward what it is “beyond”. We have in fact to add two precious tensions:

1. From a vision in which the fundamental components were space, time, and particles, typical of Isaac Newton, we passed through Michael Faraday (who added fields to the particles), then first to the vision of Albert Einstein in 1905 with space-time, fields and particles, and finally to that of 1915 with only fields and particles as fundamental components of the reality. A progressive unification is ongoing that discloses a profound meaning that gradually unfolds, which we could call: tension toward unity.

2. The second is what emerges from contemporary physics and cosmology, that is the “relational” dimension of space-time. Now physical reality speaks the language of relationship: “space-time tells matter how to move; matter tells space-time how to curve” (Wheeler and
Ford 2000, 235). In the same way, reality does not evolve over time, as if it were separated from it, but everything exists in an interconnected network of events. This emerging relational dynamics underlies what we could call a “natural” tension toward distinction.

Distinction, unity, and relationality finally define the complexity of the Cosmos, preparing for the exploration of the emerging “calling” to the beyond!

**Metaphysics as Concepts Exchanger**

“The concept of the ‘born’ Universe (…) constitutes one of the most important topics of philosophical and theological reflection that cosmology offers to human culture” (Masani 1980, 252).

Philosophy and Cosmology offer to theological research solid foundations for deepening and knowledge; we can in fact say that: “Christian Theology is ultimately grounded in some presupposed metaphysics … it is seen as an extended reflection on essentially empirical data—primarily the narrative of Jesus Christ—with the object of developing the larger account of reality that this intimates and enfolds … leads to the emergence of a greater vision of the world which could be described as ‘metaphysical’” (McGrath 2019, 208–9). We are not speaking about a starting metaphysics, as a supposition prior to reflection, but we intend a sort of *a posteriori* metaphysics, that is implicit and underlying every empirical science and emerging from it, to disclose a ground that we will define here as a sort of concepts exchanger or conceptual buffer. This is very valuable for at least two reasons: first of all it exists, in fact it cannot be taken for granted that this horizon of tension could emerge in the reflection of the empirical sciences, in particular, with reference to the reconceptualization of contemporary science and more specifically in the context of the cosmology of the beginning; second, it allows for an encounter, a sort of “boundary condition” for the passage from an apparent irremediable discontinuity, to a reasonable and possible continuity between the empirical sciences and theology. The continuity between the two disciplines must be understood in the sense of the “discontinuity of the third level” as they both tend toward metaphysics (M, understood as an accumulation point). In particular, the empirical sciences (ES) tend to metaphysics as an upper limit (from the left) while theology (T) tends to metaphysics as a lower limit (from the right), while the concepts exchanger does not belong directly to them. In formal terms, we could analogically say that:

$$
\lim_{\text{ES} \to M^-} \text{Knowledge (ES, T)} = M = \lim_{T \to M^+} \text{Knowledge (ES, T)},
$$

$$
M \notin \text{Dom (ES)} \text{ and } M \notin \text{Dom (T)}.
$$
The function “Knowledge (ES, T)” indicates the space-time evolution of knowledge precisely as a function of the contents of the Empirical Sciences and of the contents of Theology, in the perspective of an ontological unity of the world, which requires and recognizes a methodological pluralism as in an interconnected network. The development of Empirical Sciences, such as in this case all the theories concerning the beginning of the Universe, tends more and more clearly to elaborate and manage concepts that are no longer only directly experimentable and measurable but, probability, indeterminacy, incompleteness, preexistence vacuum or laws, and so on, come into play in the complexity of reality, favoring the openness and the tension toward Metaphysics. It is in fact placed “in the middle” as the upper extreme (for ES) and the lower one (for T) but it allows, and this is the novelty with respect to our mathematical analogy, a bidirectional propulsion: from one side $T \rightarrow M \rightarrow ES$ and from the other $ES \rightarrow M \rightarrow T$. This mutual reference represents a valid tool for multilevel progress in which this conceptual buffer has therefore three fundamental tasks:

1. **Bidirectional**: Receiving concepts/challenges from both T and ES.
2. **Accumulative**: Collecting the received concepts in a dynamic way with its own epistemological status.
3. **Propulsive**: Giving back to T and ES those reworked and possibly nourished concepts.

The two disciplines while relaunching emerging concepts can thus take up common challenges and integrate possible developments. The accumulative function of the concept exchanger is to provide an area that acts as a condenser, that is, which offers the opportunity for a prudent and careful maturation of the concepts themselves, waiting to be elaborated, in an increasingly scientific way, in each of the two main disciplines. In this sense, in this special territory the dialogue could be compared to the expression reported by Matthew: “Then every scribe who has been instructed in the kingdom of heaven is like the head of a household who brings from his storeroom both the new and the old” (Mt 13:52). We can therefore affirm the necessity of the recovery of metaphysics against the tendency to “deeper mistrust with regard to reason itself” (John Paul II 1998b, n. 45), because “Christian theology aspires to articulate such a ‘scheme or vision,’ especially in highlighting its capacity to hold together our experience of the world as a coherent whole…Reality is one and truth indivisible” (McGrath 2019, 206). However, the effective role of metaphysics in scientific and theological reasoning certainly still remains an open question to which we have only offered a small further side here.
Protological Christology

In the fascinating mystery concerning the origin/beginning of the Universe, we deal with the delicate issue of the preexistence of Jesus Christ in the work of Creation, as it is very important for the purposes of our discussion. To do this, we follow the theological method that, dealing with the Personal Revelation of God, analyzes the Christ event with its empirical and transcendent load, in His being man and in His being God without distinction of substance with respect to the Father. The Resurrection, the event that bears witness to His divinity in a central way, culminated with the Ascension: “the Lord Jesus, after he spoke to them, was taken up into heaven and took his seat at the right hand of God” (Mk 16:19) and “exalted at the right hand of God, he received the promise of the holy Spirit from the Father and poured it forth, as you (both) see and hear” (Acts 2:33). In the light of the Resurrection, the Lord Jesus sits on the right hand of the Father and therefore “occupies next to God that privileged place which rightfully belongs to him—and belongs to him alone—as equal to God in dignity”. It is thus fully revealed with the Resurrection, that Jesus the Christ is on the same level as God and that “he did not have a beginning in time, as happens with creatures, but rather that he pre-exists all creatures together with God”, in “full and perfect communion with [the Father] in the Spirit common to both” (Battaglia 2013, 42–43). It is useful to recall also the text of Jn 17:5: “Now glorify me, Father, with you, with the glory that I had with you before the world began”. From the condition of “post-existence” at the right side of the Father, in fact, He preexists before His coming into the world. This preexistence assumes an ontological value according to His eternal existence and a-temporal origin as the Son of God, depicting a precious link between the preexistence of Christ and the Creation of the Universe, in the sense of an absolute and a-temporal primate over the whole Creation.

At this point, around the reality of the absolute primacy of Christ with His Incarnation, there emerges the important connection between the temporal and the a-temporal dimensions of the Son of God. This connection offers a well-founded and reasonable consistency for every scientific discourse concerning the beginning of the Universe, precisely in the face of the fact that many cosmologies, despite being theories, and therefore still subject to changes, cannot in any case fail to take into consideration the binomial passage: a-temporal ↔ temporal. In the probabilistic uncertainty of the beginning, Cosmology, with different Quantum Origination Theories, comes to consider the delicate transition between an a-temporal preexistence (relative vacuum or primordial laws) and the emergence of temporality, both of which need a reasonable foundation, that could support the scientific gaze toward a metaphysical horizon, to avoid falling into fantasies or improbable attempts of reductions,
which have a more prejudicial than scientific flavor. The systematic Christological structure offers us the condition of possibility of any scientific speculation of cosmological nature on the beginning and the entire development for the Universe, with a consistent and serious landing. Starting in fact from the scheme:

\[ \text{Timeless} \leftrightarrow \text{Christ} \leftrightarrow \text{Temporal}, \]

which is in very close and essential connection with the theological role of the Immanent Trinity (the eternal intra-Trinitarian relations between the Father, the Son, and the Holy Spirit) and the Economic Trinity (the historical revelation of the three Persons), we recognize a \textit{“basic unity”} and a \textit{“structural unity”} in the Universe itself. We say \textit{“basic unity,”} in the sense of an ontological support, a condition of subsistent possibility that, in the specific case, finally assumes a Personal and Relational dimension rather than just a metaphysical/speculative one, which both represent an absolute novelty in any scientific reflection. This is therefore a truly unique opportunity for cosmology to rely on a foundation that is: \textit{concrete}, in the sense of Personal (Christ is the revelator of the Trinity); \textit{dialogical}, in the sense of the exploration and of a possible and consistent knowledge; \textit{rational}, in the sense of the language, of the reasonableness and of the comprehensibility, which are not obvious in the encounter between man and the Cosmos. But we also have a \textit{“structural unity”} that instead pertains to the very characteristics of the Universe itself, which, in its existence, shows how it holds everything together in the sense of subsistence, but also in the sense of harmony and “tuning”, being able to “manage” also the unexpected and the disharmony, reaching suffering and death, without imploding, without losing its identity, without ceasing to exist and to refer to the Savior. The very structure of the Universe appears therefore more and more in an intimate unitary connection, in a structural dynamism, where everything moves together, so that there is a sort of relational ontology that necessarily calls, in our opinion, a subsisting relationality that could find it.

Another relevant aspect to be discussed relates the passage from Singularity to Relationship. The beginning of the Universe in some cases is considered as a \textit{“punctual”} Singularity, even with all the limits of the term, while in other cases it is not a Singularity but an Emergence. Whatever the theory or theories that will try to interpret its explanation, the relational dimension of the Universe, that is interactions, structures and interconnected dynamisms, in some way cannot simply start or emerge from either the metaphysical nothingness or the relative emptiness of science, understood as static or solitary conditions, neither from a solitary and disorganized point. The transition to \textit{structural relationality} must be therefore guaranteed by another preexisting relationality, which
in no way can be empirical, otherwise the recourse to infinity would be inconclusive.

The preexistence of Christ, which embraces timelessness and temporality, eliminates any temptation of a “stopgap” type and is offered as a serious and reasonable foundation for an equally serious cosmological reflection on the origin/beginning of the Universe.

Due to the preexistence of Christ, “times are seen from a point of view that dominates them”, so it is possible to affirm that “God is eternal not in the sense that He is timeless but in the sense that he is superior to time and Lord of time” (Schelkle 1969, 98), the biblical one is in fact a very different concept from any philosophical timelessness. It follows that the preexistence of Christ is closely linked to the possibility of recognizing in Christ himself the “original model of the multiplicity of Creation, which exists in God and with God, to which God looks to create, with his creative Word, the world” (Kehl 2009, 161). Christ is the model of the form, of the fulfillment and of time, and is also the model of the order and of the directionality of the Universe, in fact He guarantees the Reason of the beginning, marking it *ab origine* with a divine seal: the origin of the beginning!

This could be the new “plot” of the Universe, the real one, which permeates all Creation and which is purely of a Christological “nature” according to the Trinitarian God, that: “connotes the whole movement and Christological mystery, beginning from existence with the Father, including the ‘kenosis’ and the Incarnation, the infamous death on the Cross and the glorious exaltation” (ITC 1981, II,A,4).

The specific action of the preexisting Son takes place in the work of Creation that: “is born from the *Logos* and indelibly bears the trace of the creative Reason that orders and guides” (Benedict XVI 2010, n. 8). In fact, starting from the parallel between Gn 1:1 and Jn 1:1, we discover in the Christological reading of the Creation, the role of the preexisting Word of God as the origin of the Universe coming from the fullness of God’s intimate life. In the origin/beginning of the Universe, God’s sovereignty tells us that “there was the Word before all things happened” (Endo 2002, 207). We can in this context speak about a *Christological Protology in the Cosmology of the beginning*.

All the elements mentioned in this paragraph converge in the role of Christ as mediator of Creation.

**Mediation of Christ**

The mediation of Christ/Logos in the primordial Creation is found in different texts (1Cor 8:6b; Heb 1:2; -Jn 1:3; Rev 3:14) and in a particular way in Col 1:15–20 where this mediation is highlighted through the use of three prepositions that configure its field: *ἐν αὐτῷ*, *δι’ αὐτοῦ*, *εἰς αὐτὸν* (in Him, by means of Him, in view of Him), which are also
referred to as “prepositional metaphysics.” The clear reference is to the horizon of a real cosmic Christology, which is not afraid to manifest its own concrete contribution, as well as to re-launch Cosmology with a new opportunity to investigate “all things”, in the perspective of the universal mediation of Christ. It is a primordial mediation with a clear expansion to the historical-salvific dimension.

Christ is defined as the firstborn of every creature and therefore mediator of the Creation as well as mediator of redemption and reconciliation, so when we speak of Creation “in Christ” we mean that: “Jesus is considered as a pre-existent ‘design’ in God of the Creation … Jesus is the ‘exemplary cause’” (Kehl 2009, 165). But going even deeper, “in Christ”, referring to Creation, is rooted in the Incarnation: “The possibility of Creation is objectively founded on the fact of the Incarnation. In fact, the Incarnation reveals the possibility of communicating God’s own being in a nature that is not divine: this is Creation” (Sánchez 2009, 507).

In the expression “through (by means of) Christ”, we certainly still refer to the preexistence of the Logos, but we want to emphasize the role of the creative Word ad extra pronounced by God “for love in its most intimate essence”, as verbum Verbi and therefore as an “extension of the intra-divine word into what is finite” (Kehl 2009, 166), since “the creative action is impregnated with the presence of the Son” (Sánchez 2009, 511). It is interesting to note this passage relating to an expansion toward what is finite: what is finite is in fact actually considered, in common feeling, a restriction, and man, the “very good” creature (Jn 1:31), feels this limitation as a “burden”. So, a finite Creation can only be “resolved” into the discovery of being precisely within the Trinitarian Love, which freely wants to love this Creation. It is about the “resolution, in Love, of the finite”, whose limit becomes an embrace and its border becomes Love without borders! Finally, the expression “in view of Christ”, highlights the final cause with a precious theological connection between Preexistence, Mediation, Incarnation, and Eschatology in the sense of the Christological finalization of Creation, because: “in Jesus Christ the whole Creation relates to the Creator, gratefully acknowledging its own creaturality [and] understands its own finitude as a value” (Kehl 2009, 166–67).

Christ is therefore the firstborn in the sense of priority/anteriority and sovereignty/excellence with respect to all Creation. Cosmology, metaphysics and theology can legitimately find the “availability of the Logos” to welcome them in a dialogical and propulsive form, since the “relationship between Pre-existence, Incarnation, Paschal Mystery and Parousia … guarantees the unity of the Mediator and the unity of his mediating work” (Battaglia 2019, 168). “It is true that the Word was made flesh in ‘the fullness of time’ (Gal 4:4); but it is also true that, in virtue of the mystery of His identity as the eternal Son of the Father, He is the origin and end of the universe” (John Paul II 1998a, n. 8).

In all this very sense, we can say that Nature is understood as Creation!
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References


