

The Concept of Continuous Creation

with Fabien Revol, “The Concept of Continuous Creation Part I: History and Contemporary Use”; and Fabien Revol, “The Concept of Continuous Creation Part II: Toward a Renewed and Actualized Concept.”

THE CONCEPT OF CONTINUOUS CREATION PART II: CONTINUOUS CREATION: TOWARD A RENEWED AND ACTUALIZED CONCEPT

by Fabien Revol

Abstract. The renewal of the concept of continuous creation follows two steps: (1) an establishment of the concept of novelty in an exercise of philosophy of nature, as a means of interpreting the scientific discourse concerning the evolution of life; (2) starting out from philosophical and theological critiques and from the concept of novelty, this work proposes a reformulation of the concept of continuous creation in its dynamic perspective. If the universe of possibilities of creation proceeds from the Divine Word by the will of the Father, as the first timeless *ex nihilo* creative moment, the Holy Spirit allows, in a second creative moment, the universe of possibilities to proceed continuously through a creative partnership in which all creatures are involved. Created novelty is the expression of a procession of one possibility among others, which has been selected by creatures during the evolutionary process, due to the interdependence of constitutive interactions and the propensities in which creatures are situated.

Keywords: continuous creation; ecology; evolutionary theory; metaphysics; novelty; philosophy of nature; theology of creation

The previous article has shown how the concept of continuous creation has been developed through the centuries, but in a rather latent way. There has been no recent debate about its consistency and legitimacy. So, in order to provide a concept that can meet the challenge of the dialogue between science and theology, in order to give theological grounding to what Pope Francis gave as a mere theological suggestion in *Laudato si'* §80, working on the setting of his concept of integral ecology it seems necessary to embrace the subject on new grounds, and above all systematically. This

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task must first meet the critique of the mainstream of the Roman Catholic theology of creation, which is that of Thomas Aquinas for whom it is not possible to think together creation *ex nihilo* and active creative divine work in the boundaries of creation. Then, the task goes through the recognition of the possible scriptural and patristic foundation of a dynamic vision for the creative act through time. Due to an original concept of natural novelty in dialogue with science, it is possible to elaborate the metaphysical foundation of the concept of continuous creation included in the biblical and Trinitarian vision of the creative act. Continuous creation will then give a setting to understand new creation, and creatures themselves can be considered as partners of continuous creation, because it all takes place within a creative dialogue that respects the autonomy of the created beings, including their creative becoming.

CAN WE SPEAK OF CONTINUOUS CREATION IN A ROMAN CATHOLIC THEOLOGY SETTING?

The fact that a great number of theologians use a concept does not mean we have to deem it automatically legitimate. This is why we need to criticize it. The concept of continuous creation is absent from any text of the Catholic magisterium. Thus, we have a question to ask ourselves. Is it legitimate to use this concept in Catholic theology? To criticize it with the help of the thought of Thomas Aquinas might seem to take too severe a road, although he did not have, in his time, to confront it as such. Let us say that it is appropriate to see if continuous creation as conceived of today is something that we can articulate with Thomas's theology of creation.

Why the Catholic Magisterium Does Not Use the Concept of Continuous Creation: Criticism of Thomas's Theology of Creation

The criticism of the theology of continuous creation can be done according to the two complementary angles, of creation and providence, in Aquinas. These two theological themes raise different questions.

Creation in Thomas Aquinas. To go right to the matter and according to the information presented in the *Summa Theologiae* and the *Summa Contra Gentiles*, creation is for Thomas Aquinas the first of God's acts outside himself. Without creation, no Revelation is possible, neither history of salvation (Pesch 1994, 504–12). His doctrine is attuned to the problems raised by the Manichean and the Cathar heresies (Aquinas 1957a, book 2). It reasserts the goodness of material creation by relating it to divine action and not to an evil principle that would be opposed to God. It is in this perspective that one has to understand the concept of creation *ex nihilo*. God needs nothing else than his own power to make beings spring

into existence. He poses creation through a unique and eternal act in a beginning of time (Sertillanges 1960, 254–55; Aquinas 2004, 142). It is a free act that depends on the sovereign will of the creator to allow for the existence of a nondivine otherness, through the exercise of pure generosity and superabundance of love. As such, God is free and sovereign when it comes to creating (Aquinas 1957a, 69). Creation is not an extension or an emanation of divine substance, but it is the contingent position in being of substances that are perfectly different from the divine substance.

In an intentional Trinitarian perspective (Emery 2004, 406), creation is the fruit of the will of the Father who thinks through the order of creation in his Word and as such gives it form (*Summa Theologiae* Ia, qu. 34, a. 3.). Through the Holy Spirit, principle of love of the Father, creatures are posited in their difference and they are led to their end (Aquinas 1957b, 119–21). The whole creative action is set within the processions of the divine Persons, it is itself a procession *ad extra*, in which the whole of the Trinity is involved through *perichoresis* (Emery 2004, 417).

According to a criticism already met in Antonin-Dalmace Sertillanges, the act of creation can only be unique and eternal, which implies that we have of it a temporal perception in the continuity of ongoing time. This is why it is only legitimate to speak of continuous creation from the viewpoint of the creature, which is that of the experience of being created. To speak of continuous creation from the viewpoint of God would be a dubious anthropomorphism that one should attempt to avoid. In this perspective, continuous creation can only be a concept that is analogical in relation to the creative act (Sertillanges 1960, 265).

What is more, the relationship of the Angelic Doctor to Greek metaphysics implies that he thinks the invariability of forms and archetypes of creatures are present in the divine Word from all eternity. This means that novelty can only be relative to an eternal plan that *preexists* creation. The change in creation is not understood in terms of creation, but in terms of Providence.

Providence in Thomas Aquinas. The notion of Providence is related to world order and its becoming. First, in Thomas Aquinas, Providence is the ordained agency of creation toward an end (*Summa Theologiae*, Ia q. 22, a.1, resp.; a. 3 in corp.). If it is possible to discern an order in the world, this is because it corresponds to a divine intention that has established this order according to an accomplishment, a profound significance (*Summa Theologiae*, Ia, qu. 2, a. 3). So, Providence comes before creation in the order of realization of the creative act, since this order is first present in the eternal divine word. The becoming of creation is thought about in terms of this deployment of Providence through time, since the beginning.

For Thomas Aquinas, Providence is distinguished alongside two complementary facets: government and conservation. Conservation, following

on questions 22 and 103–105 and the whole first part of *Summa Theologiae*, allows one to conceive the sustenance in being of creatures and of the whole universe. Government supposes conservation in its dimension of static permanence to think about the conduct of God directing creatures toward their end, their accomplishment that is the union with God (*Summa Theologiae*, Ia q. 22 a. 1 in corp.; see Souchard 2003, 77–78). As such, novelty and change in the order of creation are related to the divine government that presides over the becoming of things, in particular in the process of going from potency to act in Aristotelian terms. Change in the world comes from the generation and corruption of beings that is explained through a change of form that ends up modifying substance (see Aquinas 1937; Crouslé 2011, 249).

One has to say that authors such as Marie-Dalmace Leroy have, in the nineteenth century, integrated this perspective to try to think through a form of compatibility of evolutionary theory with Christian theology, but these authors do not speak of continuous creation in order to interpret the bringing forth of new species (Artigas, Glick, and Martínez 2006, 52–123; Martínez 2011, 602–05).

With these elements in hand, we can conclude that the concept of continuous creation, as a direct implication of creative power in the bringing forth of novelty, cannot find any legitimacy in Thomas's context of thought when it bears on creation and Providence. The only exception to the rule of creation of Thomas's is human begetting, which implies immediate creation—nevertheless, an *ex nihilo* of souls at the moment of procreation. One can read in the *Summa Contra Gentiles*, “Now, in the first generation, the creation of the soul follows the generation of the body, for, when the bodily matter is prepared by the power of the separated seed, God infuses the soul by an act of creation” (Aquinas 1957b, 310; see also *Summa Theologiae* Ia, q. 90, a. 4). A suggestion to work on Thomas's concept of continuous creation could be to generalize the exception in order to make it a rule. This is the pathway followed by Claude Tresmontant in *La crise moderniste* (1979, 280). What can we say about it from the viewpoint of Scripture and patristics?

A Fraction of the Theological Tradition in Favor of the Idea of Continuous Creation

The testimony of Scripture. A study of the vocabulary of creation in the Bible brings one to realize that this theme has a broader meaning than that implied by Thomas's metaphysics. The simple use of the Hebrew verb *bara* shows this polysemantic range. Terence E. Fretheim (2005, 34–35) identifies eleven modes of divine creation in the Bible: (1) by the Word alone (Psalm 33:6–9; 147:4f.15–18; 148:5; Wisdom 9:1; Heb 11:3.); (2) through the Word and through other acts such as separation (Genesis 1);

(3) by an invitation of other divine persons to participate in the creative process (Genesis 1:26, closer to our subject); (4) God uses primary matter to give rise to new creatures (Genesis 2:7–8.19; Psalm 8:3, 95:5.), he is a constructor (Genesis 2:22) and a potter (Job 10:8-9; Psalms 33:15, 94:9, 103:14.). He uses the dust (Isaiah 27:11, 29:16, 43:7, 44:2, 21, 24; 45:9, 11; 64:8; Jeremiah 10:16; Zechariah 12:1.); God is an artisan and a builder (Job 38:4–7.); (5) God also creates by imposing order on that which already exists (Genesis 1:2–9), and exerts action on a formless matter: “And indeed your all-powerful hand which created the world from formless matter, did not lack means” (Wisdom 11:17—NJB); (6) God creates from nothing (2 Maccabees 7:22–23; Romans 4:17); (7) the naming of the animals is a complementary work of creation done by man (Genesis 2:20); (8) the evaluation of the goodness of creation allows God to envision additional works; (9) God creates by his Spirit and his breath (Genesis 2:7; Psalm 104:30); (10) he creates in Wisdom (Jeremiah 10:12; Psalm 104:24.; Proverbs 3:19f.), and through Wisdom (Wisdom 9:2); (11) he also creates in combat as we find in the traces of archaic cosmogony (Isaiah 27:1, 51:9; Psalm 74:12–17.).

The verb *bara* is used to identify the creation of the people of God through the gift of the Torah in the desert. In this case, it implies that the creative act is identified to an act of salvation, something normative for the theology of creation (Beaucamp 1988, col. 547f.). The experience of faith is first and foremost an experience of salvation that leads us to think about the power of the creator God in a second moment. In the same way, creation is modified to allow for this act of creation-salvation (Wisdom 19:5–6.). The Psalms testify to this continuity between the acts of creation of God and the act of salvation destined to the people of Israel (Psalms 135:5–12; 136:4–26). The creation *ex nihilo* stems naturally from the Old Testament reflection on the possibility of a resurrection, notably in the context of persecution (2 Maccabees 7:28).

Oftentimes, creation is conjugated in the present tense in the biblical text, and it refers to the creation of new and unseen things among beings in the events of history. Man participates in this creative action with the proviso that the human creature is never the subject of this verb *bara*. This we see in the naming of animals, understood as an action of completion of creation. The nonhuman creature participates in this process when it obeys the divine order and produces animal and vegetable beings in Genesis 1.

One must finally also point out that the wisdom tradition of creation is a corpus of texts that insists on the temporal and dynamic dimension of God's creative involvement with the world. The divine Wisdom enacts creation by the ordering of a cosmos from the chaos. This is already present in Genesis 1:1–2 and is manifested by the theme of the divine creative play, notably in Proverbs 8. Even the whole text of Genesis 1 can be understood

as speaking of creation as a temporal process, articulating both the unity of divine action and creation through a series of elements of the world, through the rhythm of night and day, and the response of creation through the production of beings that inhabit this world.

So it appears that the biblical reading of the theme of creation gives one a broader sweep to think about continuous creation. The elements of this wisdom tradition of creation identify a *diacosmesis*, an organization-ordering of the cosmos, and those elements have been taken over in patristic thought, thus giving to the theology of creation of the first Church Fathers its dynamic dimension when they talk about the creative act, something very interesting for us to consider about continuous creation today.

The testimony of Christian antiquity. In the first Fathers, the dynamism of the creative act in time is mediated through the theme of the unceasing character of creation. The first formulation of this concept is found not in a Christian writer, but in the Jewish writer Philo of Alexandria, a contemporary of Jesus. Commenting on Genesis chapter 1, he interprets the Sabbath rest not as a halting of divine activity, but as a change in the modality of creative action. The Sabbath is thus an unceasing divine action (Philo 1800, 52–53). This formulation is also found in another Alexandrian, one who is Christian in this case, Clement of Alexandria, in the sixth of the *Stromata*: “God’s resting is not, then, as some conceive, that God ceased from doing. For, being good, if He should ever cease from doing good, then would He cease from being God, which it is sacrilege even to say” (Clement of Alexandria 1867, 388). The six days of creation are not understood literally as to their chronology, but as a metaphysical explicitation of some atemporal creation of the archetypes of creatures, according to a Platonic interpretation of Genesis 1. This metaphysical perspective is also taken over in Augustine in an original elaboration on the theology of creation, both faithful to Scripture and in dialogue with the philosophy of that era. One could summarize thus such a theology: God creates all things, including time, from nothing, but according to a distinct order of perfection and completion. Augustine’s long reflection on time that one finds in the *Confessions* in book XI (Augustine of Hippo 1998, books ix–xiii, and 229) presents a foundational character that will be reutilized in the thought of Thomas Aquinas a few centuries later, in the perspective of articulating time and eternity, as in the work of Edmund Husserl who credits Augustine with being the first great philosopher of time (Husserl 1991, 3). The expression “before creation” does not make sense for Augustine because it does not point to any metaphysical reality. Since time is part of the created order, there cannot be a creation before time.

The particularity of Augustine is to be found in his interpretation of the creation narratives in Genesis 1 and 2 according to the method of literal

reading he used in is ultimate commentary of Genesis (Augustine of Hippo 1982). In the course of the *Hexameron*, he distinguishes creatures that are created completely each in their own day, such as the angelic creature; the four elements represented by the oceans, the continents, the heavenly bodies, and the firmament; and finally the soul of the first man. In the same simultaneous motion are created beings that are included in their causal reasons, called to develop toward perfection in the course of time. Augustine thinks that these causal reasons are immersed in the terrestrial element, the mud of the soil in a certain sense (de Sinety 1930, 247–49). The concept of causal reason is the hinge element that allows one to understand the articulation between creation of metaphysical genera in the course of the six days, and the creative activity present in the course of time. The causal reasons are in fact the archetypes of creatures that are present under the form of seeds in the whole of creation. By deployment and development, they are the mediation for the temporal creative action that gives rise to successive bursting out of live created elements. Augustine at this point introduces the concept of *concreation* (*concreata*; see Augustine of Hippo 1998, 302–03). He offers two reflections on this problem, in continuity with the unceasing creation of his Alexandrian predecessors, a way of conceiving two different creative moments, two creative *kairoi* that are different: one is atemporal and completely metaphysical, in the sense of the beyond, and even below the borders of sensible nature. The other moment is mediated through the action of causal reasons.¹

The biblical and patristic traditions opened the way for a legitimate work of elaboration of a dynamic conception of the creative act in time. They also allow us to say with caution that Thomas's theology of creation might not be the last word of Christian thought on creation, and as such can be overcome. The work of synthesis on continuous creation that lies ahead of us must now be done in dialogue with the natural sciences, in particular through an analysis of what the philosophy of nature understands to be natural novelty, if this concept can be held as a basis for theological elaboration.

HISTORICITY OF NATURE AND NOVELTY IN CONTEMPORARY COSMOLOGY

A Consistent Ontology for a Relevant Metaphysics

To understand the significance of novelty in nature under theological light, one must first agree on the idea of novelty. From a theological standpoint, all novelty is to be compared to that of Christ, which is normative to reread the whole biblical history of salvation. As such, novelty and history must have systematic relationships: the acts of salvation are considered as novelties in history; they are comparable to acts of creation.

Nature also has its history. Can we transpose all of this in the realm of nature? In this context, philosophical criticism and philosophical hermeneutics have to be put to work. Two problems will face us. The first is that, since Immanuel Kant, we have become familiar with an opposition between nature and culture. Nature is that which is under determinism and as such considered ahistorical, while culture stems from free actions posited by beings capable of self-determination and which are for that reason unpredictable (see Feltz 2010, 69). History is considered to bear only on the human realm. What is more, to say that something is new in nature is to say things from a viewpoint that might not be understood by science itself. The scientific discourse only speaks of that which is regular and determined. To say that something is new is to say that it would come from the field of human action or of creation, and that is something in which we are indeed interested.

But then, the most accepted theories of astrophysics—such as the Big Bang theory (Lemaître 1927, 49–59; Friedmann and Lemaître 1997)—and biology as well as evolution force us to consider that nonhuman nature has a history. The universe had a beginning, a development, and many scenarios for its doom can also be envisioned. Physical elements themselves have a history because they are relative to the balance of the great forces that are at the foundations of physics and their setting into place. They are also related to the action of the burning-ovens of the cosmos to be found in the stars, also called *supernovae*, and in which complex atoms can be created by fusion of simpler elements. With the Darwinian theory of evolution, we have the idea that life is by its nature historical because it is genealogical; living species succeed each other and give birth to each other in the temporality of geological scales.

When we speak of history, we speak of contingent events. The history of life is showing to what extent this contingency is to be taken into account in the mechanisms for the appearance of new species (speciation) for which the paradigm of mutation-selection still remains the dominant one, although it has been criticized as insufficient (Kauffman 1993, 26). Contingency is to be taken into account in the disappearance of the living, particularly through natural selection and even more by the great planetary catastrophes that are responsible for the disappearance of more than 99 percent of living species on Earth. There have been five such catastrophes, the last one was that of the dinosaurs, called the crisis of the Cretaceous-tertiary, 65 million years ago, after a series of upheavals that were climatic as much as geological.

The problem of novelty. The events of nature are to be taken seriously and should be studied in a historical perspective. Michel Morange considers that novelty is an engine of historicity, and also that the reciprocal is true, namely that the historicity of nature produces novelty (Morange 2011,

184). Thus, the recognition of nature's historicity implies necessarily that newness is offered to be known. This was defended by Henri Bergson in *Creative Evolution*: novelty is everywhere present, it is unforeseeable, and most of all it is the fruit of an act of creation (see Crouslé 1993, 81; Bergson 1998, 239).

On the other hand, scientists are not in agreement on what to name this novelty is in biology (Morange 2011, 81). Is it something to be found on the purely material level with the appearance of new molecules of the living? In this case, there is not much that is novel for the past hundreds of millions of years. Is it to be found in moments of transcendence of matter over itself? By this we would refer to the appearance of the living in relation to the inert, of consciousness in relation to the unconscious, particularly articulate language proper to human beings. Or is it to be found in the level of species and taxonomy? Should we look at organs, or functions? Oftentimes these two levels are mingled. Or is it finally the level of genetic information with the appearance of new genes, or new alleles of genes?

We have to define novelty. But for it to be efficient, it must be set within a larger hermeneutics of the cosmos at the metaphysical level. In a Greek and Ancient philosophy perspective, radical novelty does not exist, since in nature things are only the expression, more or less programmed, of an archetypal and eternal form, which does preexist. For Bergson and Alfred North Whitehead, if the foundation of being is motion or relation (Bergson 1965, 115), the form is not all preformed, but there is on the contrary a question about the new forms that can be brought about and that can be principles of substantial and radical novelties. One has to position oneself in a metaphysical model that can bear the ontological consistency of novelty.

Criteria for Ontological Consistency of a Natural Novelty

A distinction between event and novelty. All natural events cannot be said to be novelties, since even if a situation is novel it is only the product of a modification of circumstances. However, an event transforms itself into novelty when it is the object of a certain fixation both structurally and temporally. This is why I think that all the levels mentioned in the previous paragraph are to be considered places for a possible appearance of novelty—the elementary level, atomic and thus physical, molecular and thus chemical, genetic, cellular, organic; then there are the structural, physiological and dysfunctional, organismic, specific, generic, and more largely taxonomical levels; I would even go as far as the ecosystemic level, not to mention the biospheric one.

A definition in five points. The difficulty of finding a definition that can apply to all these levels must not be underestimated. When one confronts

the diverse theories of speciation, particularly those of Charles Darwin, François Jacob (1993, 312), Marc Kirschner and John Gerhart (2005)—refounding the notion of the Baldwin Effect—and Stuart Kauffman (1993) in an emergentist perspective, we arrive at a concept of novelty that should be consensual in philosophy of nature. I propose a definition in five points. (1) Novelty as contingent and unforeseeable reality. This means that it is not the fruit of the determinist program, unless the program itself be novel. Radical novelty cannot therefore be predicted by the scientific model. (2) Novelty is a systemic reality that is made consistent by the interplay of constitutive interactions. In fact, novelty cannot spring forth unless the elements that enter in interaction in a configuration of a given milieu permit the constitution—in the strong sense—of this novel entity. (3) Novelty is a finalized entity in a system of a superior level of complexity (the cell in an organ, an organ in an organism or ecosystem, an organism in an ecosystem, a species in an ecosystem or in the biosphere). As such, novelty brings about finality and functionality within the systems that have made it possible, and to which it from then on takes part, because it exerts a significant influence on its own constituents. (4) Novelty is a reality that is in dynamic equilibrium, that is, it sets itself in duration and possesses a form of structural stability. This is the central aspect that makes it distinct from an ephemeral event. Novelty must be stable and perennial to be structurally inserted into systems that come before it, and which will be modified by itself or durably consolidated. (5) In summary, novelty is an integrated and autonomous reality capable of having its own impact on its constitutive elements and on those of its environment. It is thus a reality that produces an action on its environment and which modifies the conditions of its own environment. This idea of integration gives meaning to that of principle. If there is integration, it is because there is a principle of integration in which these different constituting elements of novelty are rooted and find their coherence.

This is the point from which the process of articulation of discourses must take place. If this philosophical definition finds a certain point of application in physical and biological reality, we can look for its metaphysical foundations on which to lay a theological elaboration.

CREATION AND GOD'S ACTION: A CREATION IN TWO MOMENTS²

Methodological Remarks

Natural creativity resting on the ontological consistency of novelty opens up the way for theological interpretation, in relationship with the biblical and patristic traditions that we have encountered in our first section. These traditions are dependent upon the presence of Greek philosophy, be it Stoic or Platonic in the Wisdom books, or Platonic and Neoplatonic for

the Church Fathers. It is naturally toward these philosophical trends that our thought will turn to elaborate further on the question of continuous creation. A living and dynamical *logos* informs the world and propels it to go on toward its fulfillment. However, we are going to face a philosophical problem, which is that of the metaphysical immutability of substantial forms. The coming forth of true novelty in the world will only be possible if the imparted information also is novel. But, we must recognize, we are not at any point witnessing the coming forth of beings that would be entirely new. We see beings that are truly novel and yet derived from ancient forms, from beings that have gone before them. A new being, in our perspective, can be understood at different degrees of novelty. This means that we have to think, contrary to Greek currents, within a perspective that will be more Bergsonian and Whiteheadian, allowing for the possibility of a modification of substantial form, the modification of archetypes. How can we think this today in a philosophy in dialogue with the sciences? Bergson and Whitehead, two authors dependent on a Platonic inspiration, have not developed a Christian philosophy, but some aspects of their thought could still be useful to us. Tresmontant made a proposal that I find attractive when it comes to this question of the modification of form, by an introduction of creative information in natural systems already informed. But his knowledge of the sciences of his day prevented him from envisioning creation as creative partnership, and therefore his contributions remind one of a theology of continuous creation that would only be the execution of a divine program that does not give its due to the contribution of creatures.

There is an author of the Carolingian Middle Ages who presents interesting characteristics to think about continuous creation, and frames it within a system that is sufficiently flexible to be modified. I refer to John Scot Eriugena, philosopher and theologian of the court of Charles the Bald in the ninth century.

*Calling into Question the Traditional Approach of Continuous Creation:
The Theological Cosmology of John Scot Eriugena*

John Scot Eriugena was an erudite scholar who worked on the realization of a synthesis between Eastern and Western Christianity. A specialist Hellenistic studies, he translated into Latin the works of Dionysius the Areopagite, of Maximus the Confessor, and of Gregory of Nyssa. He was also a notable scholar of Augustinian thought. Philosopher and theologian, he commented on the prologue and the Gospel of St. John (Vilanova 1997, 563–64). But his masterwork is a summa in four volumes called *Periphyseon*, a title that was ill-translated into Latin as *De Divisione Natura*. In this work, Eriugena develops a theology informed by the Neoplatonic culture of his time, and by his Patristic readings in Greek. He was under

pressure from the Roman Church authorities and his books were forbidden because of a few theses he held concerning the question of hell. The *Periphyseon* was also condemned to be burned for heresy, because it was suspected of being pantheistic. We know of the condemnation by Pope Honorius III, in a letter dated 1225 to the bishops, archbishops, and other prelates ordering them to apply the condemnation of the *Periphyseon* from the Council of Sens in 1141, condemnation for which we do not have supporting archives. We owe Pope Benedict XVI the rehabilitation of this author in 2009 (Benedict XVI 2010, 123–28; see also Jauneau 2014, 139–82).

John Scot Eriugena is inspired by a metaphysical reading of Genesis 1 by the Greek fathers and by Augustine, and he works on the latter's thought to sort and make more precise some of the contents in relation to apophatic theology. He proposed a relationship between God and creation according to a fourfold structure that gives us the division in four books of the *Periphyseon*, in relation to four different "natures" which proceed according to a firmly established direction and hierarchy: (1) the "uncreated creative nature," that is, God creator; (2) the "created creative nature," that is, the rational and temporal matrix of creation stemming from the procession of the divine Word, corresponding to the *logoi* in Plotinus (1921, 179), to the archetypes in the Alexandrian fathers, or to the genera and causal reasons of Augustine; (3) the "created uncreating nature," that is, the known and temporal world, or the intelligible and sensible worlds; and (4) the "uncreated uncreating nature," or God as end of creation, manifested in and through the successive processions in creation and in each of the actual creatures (Eriugena 1987, §441b, 25–26). Let us notice the vocabulary in use: that of procession. This is not about a Trinitarian procession that is a motion internal to the divine nature. What we speak of here is processing *ad extra* that one would have to think alongside the model of a hierarchy of processions according to, *ceteris paribus*, Plotinus in the *Enneads* (1924, 150–51). Among the processions that are considered, two of them are really creative and understood by John Scot Eriugena as synonyms of creation. As we have in Augustine, this allows him to think about this cosmological approach identifying a creation with two moments of different temporalities corresponding to two processions: a procession of primordial causes stemming from the Word, and a procession of the sensible and intelligible world, of which time is part, stemming from the primordial causes. The causal reasons are generally understood as "mediating element between two moments of creation" (Augustine of Hippo 1972, 659 n. 21).

As such, uncreated creative nature is the creator God himself. Eriugena states that the first procession is that of primordial causes stemming from the divine Word according to the will of the Father. This is a creative procession, in a sense where the primordial causes are created by

this divine atemporal action. From the primordial causes we have the procession of the intelligible and sensible worlds. In other words, there is a passage to existence of these abstract ideas that corresponds to a creation according to the diacosmetic scheme that one can find in the *Timaeus* of Plato (1997, 1224–91). To a genus present in the primordial causes corresponds a category of individualized creatures in the sensible and intelligible realms through an explosion of forms and of actually existing creatures. This work of differentiation is attributed to the Holy Spirit.

The Neoplatonic framework of thought gives Eriugena the audacity of thinking and writing that these successive processions belong to creation *ex nihilo*, and are even two steps of creation *ex nihilo*, in the spirit of the concept of concreation that we already met in Augustine (Wolfson 1970, 54–55). To understand this, we have to resituate the Neoplatonic context, which is that of our author. The concept of nothingness that is used here is not that of Thomas Aquinas, which is defined by a privation of being or absence of being (see *Summa Theologiae*, e.g., Ia q. 40 a. 3; q. 45 a. 1; q. 75 a. 6; q. 104 a. 3.). Eriugena borrows from Gregory of Nyssa a definition that goes in the opposite sense and which is that of nothingness as excess of being or supereminence of being (Wolfson 1970, 57, quoting Gregory of Nyssa 1892, chap. xxiii, 212C, 414). Eriugena defines a relationship of transcendence between each of the divisions of *Periphyseon*, which implies that every superior level is nothing that an inferior level would be, and conversely (Eriugena 1987, 547c, 148). Thus, the beings who are situated in the intelligible and sensible worlds cannot grasp intellectually the shape of the level of primordial causes that surpass in nature that which is understandable to intellects of the inferior level. Creation *ex nihilo* is understood as a creation from the supereminence of being of the superior level in relation to the inferior: God for the primordial causes, and those causes for the intelligible and sensible worlds (Eriugena 1987, 554b, 155).

Let us note also the Trinitarian dimension of this cosmological theology of Eriugena. The will of the Father crosses the Word so that the procession of primordial causes is possible. In a perspective that is shared, the Word is the transcendent model of primordial causes. And the Holy Spirit is the actor of the second creative procession, by a work of fertilization and incubation of primordial causes, like a bird brooding over its nest so that the eggs hatch in a multiplicity of varied beings with all their genuine colors in the orders of intelligibility and sensibility.

I will insist on the fact that continuous creation is operative in the second procession, that of primordial causes toward the intelligible and sensible worlds, and that this work is operated by the Holy Spirit creator. The problem that we have now is that of the immutability of primordial causes.

*Overcoming the Neoplatonic Framework of John Scot Eriugena:
Continuous Creation as Temporal Process of Radical Novelty from the
Primordial Causes*

Concerning configurable primordial causes allowing us to think continuous creation. The contribution from Tresmontant is useful here to think of form as information. This last idea refers to an abstract data that can be created, modified, reconfigured by addition or withdrawal, and that can also have different meanings in relation to the receptor where it is received, read, and decoded. In agreement with John Haught, but without direct relation, Tresmontant envisions continuous creation as introduction of creative information into the world, an information that gives rise to novel configurations within the living and the cosmos in general (Tresmontant 1966, 273–82). I posit that this introduction of creative information corresponds to the procession of primordial causes in the intelligible and sensible worlds. But this supposes that the primordial causes be themselves configurable, reconfigurable, and as such mutable, which would clash with the classical idea of immutability of forms. The metaphysical tool to which I have recourse is paradoxically fully Plotinian. In fact, in the *Enneads*, Plotinus discusses the idea of *logoi* in relation to the archetype of sensible beings. A *logos* in Plotinus is an assembly of ideas. The ideas are in a certain sense metaphysical building blocks, the assembly of which forms the *logoi* (such assembly being for him immutable) describing the genera (equally immutable) of sensible beings (*Enneads* II, 4, 3; V, I, 4; see Augustine of Hippo 1972, 654–57 n. 21, as well as Gire 1986, 31). In the Neoplatonic perspective, there is a finite number of genera that can find their place in the sensible world considered as fixed, that is, which is not in evolution as we would have it in the paradigm of modern cosmology. Taking over the vocabulary of Eriugena, I consider that the primordial causes are to be divided into categories: primary and secondary primordial causes. The former correspond to ideas, the later to *logoi*. So the fourfold level of procession of the originals gathers added complexity, that of the configuration of secondary primordial causes by primary primordial causes. The secondary primordial causes can give rise to a process in the intelligible and sensible worlds. The assembly of primary primordial causes can virtually produce a number of configurations of secondary primordial causes tending to infinity. On the other hand, we experience the finiteness of forms with this insight, often verified that many forms virtually conceptualizable are neither possible nor desirable in the realm of existence. The mammal with six legs is not viable and has not been selected by natural selection, in the midst of evolutionary processes. There are thus constraints that impede the expression of some forms favoring some others, more plausible and more pertinent, within a given order. This means that we have to consider continuous creation not as the execution of a program, but as a process of propositions that imply

the feedback on the part of the intelligible and the sensible domains on that of primordial causes.

Concerning the interaction of primordial causes with the sensible and intelligible worlds: On the role of creatures in the process of continuous creation. Here, we reach the aspirations of many contemporary theologians of continuous creation who see this process as a creative partnership. To think this through, one has to call on some elements of Whiteheadian metaphysics. Whitehead understands that any actual existing entity, or creature—human or not—would be endowed with a pole of subjectivity, which is an openness to God's transcendence in order to welcome in itself creative information proposed by God (Whitehead [1929] 1979, 248). The creature is therefore in a tension that orients it toward the welcoming of this information. But this pole of subjectivity is also the seat of a discrimination within possibles. This means that all information is not pertinent to receive due to the state of evolution in which this creature is to be found. The organism is considered as participating in its own evolution and this tension that it exerts on itself to welcome, continuously in some cases or with discontinuity in others, the creative information corresponds to a step in a significant evolution.

This process makes of the creature a partner in its own evolution, which is here understood as a quasi-synonym of continuous creation (creative advance) in the Whiteheadian perspective (Whitehead [1929] 1979, 222–23). In terms of my own elaboration, there is a transposition to operate and I will say that secondary primordial causes constitute the possibles, and that the creatures of the intelligible and insensible domains are likely to accept or discriminate in relation to their state.

The mechanism of this acceptance or refusal of creative information is to be understood through a philosophy of the nature of novelty that I previously developed. It is through an ontology of the interactedness of natural novelty that this can come about. The networks of ecological interactions are part of a framework that regulates the constraints and openness of natural systems to the input of novel information. The novel information stemming from the interaction of elements in the system does not come from the system itself. It emerges, not as we would have in an iceberg, but in the sense of a reality of its existence at the level of the system, in the perspective of Tresmontant completed and corrected by the Whiteheadian and emergentist approaches to novelty. The interactedness is creative to the extent that it constitutes the welcoming condition necessary for novel and creative information, and this corresponds to a configuration of secondary primordial causes that is pertinent for a creature in a given evolutionary situation. The passage from the primordial cause to novelty is realized as a fruit of the process that I defined previously, as work done by the Holy Spirit creator. In this sense, God is the one who gives being. The creature is

not creative in the strictest sense, it is a partner to continuous creation, and even co-creator in conformance with the expression of Tresmontant (1960, 29), Adolphe Gesché (1991, 153–84; 2004, 76–82), and Philip Hefner (1993, 32). Such a place given to creatures in the process of continuous creation implies a conceptual articulation with the notion of contingency. If the collaborative creativity is authentic, the creature and the whole of creation have the possibility of being causes in the orientation of their becoming, which is not a fruit of a predetermined program. Creatures can even make strategic errors in evolution. To understand this complex process of respectful collaboration when it comes to the role of the creature, we have to give random phenomena within natural processes their place in order to ground a true contingency to continuous creation events.

Recurrent schemes and propensities as intelligibility of order, of disorder, of evolution, and as fruits of continuous creation. This reflection follows the path cleared by Jacques Monod (1997) when he titled his famous monograph *Chance and Necessity*. The question of contingency is that of understanding the order of the world that articulates both constraint networks and regularity networks, structuring a universe that testifies to the absence of an unstable chaos where no life would be possible. Seen differently, contingency articulates the necessary openness of these networks of constraints allowing us to welcome ontological indeterminacy as something necessary to bring forth unpredictable novelty.

Concretely, we observe that emergent phenomena testify to an intrication of order and disorder for the setting into place of hierarchical ascending levels of organized structures of great complexity (Jacob 1993, 302). That which appears chaotic at one level gives rise to an ordered structure at another level, and vice versa. Mathematical models have shown that in some cases the most performing living structures appear in conditions that are at the border of order and chaos (Kauffman 1993, 280–81). It is therefore inappropriate to oppose these two concepts to conceive the whole of reality; it is even necessary to link them closely according to a unique dynamism, which could be accounted for through the statistics associated with the classical system of mathematics.

The indeterminacy of some phenomena makes it difficult to assimilate them in the classical conception of things, but statistics allow us to account for them in an intelligible way. The emergent probabilities as introduced by Bernard Lonergan in his major work *Insight* seem to be a good approach to study this overall phenomenon that assimilates in itself the notion of order and disorder (Lonergan 1992, 148–50). “Recurrent schemes” are successions of events with constituent elements that cannot take place unless the preceding constituent has effectively taken place. B exists only if A has happened and C takes place only if B took place, and so on, until A comes back and starts over to recurrence. Those recurrent schemes

function in a feedback circle. In nature, there are three kinds. First, they can be “actual,” that is, those that happen right now in their contingent unicity. Second, they can be “probable,” that is, they happen with an ideal expected frequency, but with divergences that can take place. Third, they can be “possible,” that is, it is really the whole of the recurrent schemes that could happen, whatever their probability (Lonergan 1992, 141–43). The notion of emergent probability is the synthesis of the probability of appearance of the recurrence schemes and their survival probability. Once a recurrence scheme has put itself into place, the probability of appearance of the next one is found to be greater (Lonergan 1992, 144–48).

The evolution of the living sets itself in this theoretical approach of recurrent schemes and emergent probabilities: the novel characters appear on the scene only if other ones are there before them, to open for them the possibility of taking place (Lonergan 1992, 156). Organic and genetic structures are the proof that recurrent schemes actually exist in the living; this would call for a longer elaboration, but it can be said that one of its manifestations is the phenomenon of convergence of characters studied by the palaeontologist Simon Conway Morris (2003, 11, 272–73, 304–07), also called evolutionary convergence, such as hydrodynamism in aquatic animals (e.g., in the dolphin, tuna, and *ichthyosaurus*), or the development of superior limbs as wings in flying animals (birds, bats, and *pterosaurus*).

We can then interpret the evolution of the universe in terms of those recurrent schemes. They are put into place by the interplay of emergent probability. Structures form themselves one after the other and provide the next one a naturalization due to the huge amounts of time available in the universe. What the basic structures will put into place can be called “propensities” after the terminology of Arthur Peacocke (2004, 72), himself relying on the writings of Karl Popper (1995). The notion of propensity expresses tendencies for some potentialities to be actualized due to pressures of an environment on a system. The propensity describes the situation where the context makes it so that a random phenomenon will become more probable (Peacocke 1999, 704). Natural selection is akin to such a mechanism in the living world: the milieu exerts a pressure of selection on organisms, favoring the emergence of complex systems that will allow adaptation of these organisms. Peacocke thinks that on a large scale there is for instance a propensity to store and treat information in the living, which even introduces a propensity for consciousness (Peacocke 1999, 705–06). The storage of information in the organism is organized more and more efficiently, so as to produce the emergence of consciousness by the complexification of the nervous system, which is a place for processing of this information.

Thus, recurrence schemes and propensities are a stimulating approach to help us think about the mechanism of development in the universe within an evolutionary paradigm. Order and disorder are understood as facets of

one and the same reality and must not be looked upon as opposite terms but on the contrary as terms in cooperation. This is why we can say that, even if chance presides over the evolution of the living, it does not allow the appearance of just any possible. It acts on that which preexists, and this preexistent entity offers a frame that limits the possibilities of further appearances. This defines a universe of limited possibilities. Chance brings with it the contingent elements that will direct it, or at least condition it severely (Exbrayat 2002, 364).

The autonomy God granted to his creation will thereby consist in the possibility for creation to exploit a diversity of roads to actualize possible configurations of primordial causes, providing the appropriate creative information in an evolutionary situation, in the intelligible and sensible domains. This pathway is done with gentleness but with assurance in the spontaneity of trial and error that autonomy presupposes. In the end, however, God is sure of obtaining that which he expects, since he “takes his time,” according to a double perspective that we still need to develop.

Theological Extensions of Continuous Creation

Relying on this conceptual elaboration, we can draw some consequences or at least some extensions in the realm of theology. I will only allude to four: the question of creation in the beginning, the two axes of continuous creation containing the Christlike question, the Trinitarian dimension of continuous creation, and the relationship between transcendence and immanence in creation.

Creation and beginning. Genesis 1 teaches the truth of creation in a beginning, according to the most literate translations of the Hebrew text. Tresmontant stresses that any creation properly understood is a beginning (Tresmontant 1966, 271). All genuine novelty starts to exist in this radical way. Thus, for Tresmontant continuous creation of novelty represents many creations in a beginning. Continuous creation can then fall in place as an extension of the interpretation of Genesis 1 and it can stand for a *locus* of creative action as described in the Bible.

The two axes of continuous creation. The creative product of the interaction that constitutes continuous creation is manifested in its most visible effect at the level of the living: biodiversity (on which see the teaching of Pope Francis in *LS* §§33, 69). The indefinite production of diversity is one of the two finalities of continuous creation. One can hark back to this ancient theological tradition present in Thomas Aquinas, indicating that the finality of creation is to reflect divine perfection (*Summa Theologiae*, Ia, q. 47, a. 1; see also Aquinas 1957a, §§6, 11, 42). The unity, eternity, absoluteness, the necessity of this perfection can only be manifested in the

order of creation according to modalities of multiplicity, of temporality, of relativity, and of contingency. For creation, to imitate divine perfection by indefinite and contingent production of diversity is something to realize through a long process of continuous creation, mediated by that of interrelatedness.

The second axis of continuous creation, but which is in fact the first in the order of ends, is that of the Incarnation of the divine Word in the person of Jesus Christ (Colossians 1:15–16). In the midst of this indefinite process of creation of diversity, according to the Scotistic vision (Delio 2003, 10, 37–39; 2008, 53–65) (and not the Eriugenian) there has to be one and only one path that could bear the promise of a creature that would be *capax Dei*, that is, both capable of welcoming God in the experience of its life, but also capable of welcoming God living the experience of humankind. It is through this second axis of continuous creation that we reconnect with anthropology. The project of Incarnation can be expressed as an engine of continuous creation in the form of an exploration of creative possibles that can make the required conditions for incarnation happen: the coming about of the human creature.

Trinitarian dimensions of continuous creation. In the footsteps of John Scot Eriugena and the Christian tradition of creation, I underscore the Trinitarian dimension of continuous creation by restating some of the points laid out. The Father is the ultimate source of creation from whom proceeds all that exists. By his creative will, which crosses the Word as model and archetype of all creation, he sees to it that primordial primary causes proceed in a first creative moment. Those organize themselves among each other through the action of the Holy Spirit creator, who acts on them as an incubator, to form the secondary primordial causes. By the same brooding of the Holy Spirit creator, these secondary primordial causes enter in the procession of the intelligible and the sensible worlds, in a second creative moment that is situated in time. The Holy Spirit plays the role traditionally ascribed to him of vivifier (*Zōopoion*, “Symbolum Constantinopolitanum”; see Denzinger and Schönmetzer 1976, §150, 66) and of “diversificator” of forms of creatures, in a creative dialogue that implies the economy of creation and creatures in evolution.

The Trinitarian dimension can also be expressed in terms of the Trinitarian life present behind the process of continuous creation. In the Franciscan tradition, particularly in Bonaventure, one finds the traditional idea that nature is an open book where God is to be known to the observer paying attention to his traces in creation (Wisdom 13:5 and Romans 1:19–21) (see also “Dei Filius” in Denzinger and Schönmetzer 1976, §3001–3007). This gives us a new path to think about those traces that the theological tradition calls the *vestigia* of the Trinity in creation (see Bonaventure 2005, 61–62). The Trinitarian *vestigium* is in fact the *vestigium* of Trinitarian life.

Continuous creation is a process grounded on an interrelation: of God with creation, of creatures with the Spirit creator, of creatures between themselves. To be created in relationality, in the midst of continuous creation, is the sign that God is himself relational, unity of three Persons defined by their subsisting relations. The notion is inherited from Thomas Aquinas (see *Summa Theologiae*, Ia, q. 11, a. 3; q. 21, a. 1, ad 3; and q. 47, a. 3, references that Pope Francis uses as footnotes in *LS* §241, note 171). The theological source of this idea of “reliance” as sign of the Creator in creation is to be found in Denis Edwards (2004, 205). In the Trinity, God exists in an internal union. This expression identifies the seal of the creator, his trademark, and his signature in creation.

For example, as we have seen in the previous article, Teilhard de Chardin even says that God only exists when uniting (Crespy 1961, 115–16; see Teilhard de Chardin 2002, 194). By a boomerang effect, he notices this tendency to union in nature to form complexity by addition. And by another boomerang effect, Teilhard de Chardin thinks that the Trinitarian relations belong to the nature of God because they belong to the nature of being in general.

The relationship between transcendence and divine immanence in creation. This emphasis on the relational dimension of continuous creation allows us to put the emphasis on the idea that God is constantly present to creation, because constantly involved in the creative dialogue in a loving dialogue with creatures. Eriugena’s approach of the concept of creation *ex nihilo* expresses the pole of transcendence of the subdivisions in relation to each other, but the fourth subdivision, which I have not said much about, has for its function to show the theophanic dimension of creation. It is through creatures that God manifests his glory, and can give something of himself to be known, thus complementing and recalling biblical revelation. This immanent side confirms the possibility of speaking of the true pantheism implied by continuous creation, because of the intensity that stems from creative relation. God is not mingled with creatures, but we can say with Jürgen Moltmann (1985, 212) that the spirit of God inhabits his creation as in an ecosystem with which he is in constant interrelation, with the reservation that here it is the habitat that depends on its inhabitant and not the other way around as in the normal functioning of an ecosystem. This reflection therefore sets itself in the pathway of an English author of the nineteenth century, Aubrey Moore (1890, 41–81), who welcome the novelty of evolutionary theory as a blessing for the Christian doctrine of creation. The evolutionary vision of the world, and in particular of the living, permits a real expression of the presence of God in the midst of natural processes in a way that the classical version of creation as separated species does not: “science has pushed the Deist’s God farther and farther away, and at the moment when it seemed as if He would be thrust out

altogether, Darwinism appeared, and, under the disguise of a foe, did the work of a friend” (Moore 1890, 73).

CONCLUSION: ANTHROPOLOGICAL AND ETHICAL OPENINGS

The concept of continuous creation expounded here has been grounded in a cosmological perspective that has established connections with Christian anthropology only in order to create openness for a later work of articulation with its ethical finality. I recognize that this endeavor is a sidestep as compared to the common approach of a reflection on creation. The risk is to naturalize such a reflection. In an analogous way, objections were made to Francisco Suarez to have confined this theme to metaphysics in his *Metaphysical Meditations* without the true connection with biblical revelation. It seems to me that this risk should be taken in the perspective of an interdisciplinary dialogue of theology in its encounter with current issues in society. The ecological crisis invites us to rethink and to perfect our reflection on the place of human beings in creation in a way where they would not buy it on the cheap (see Revol 2017, 267–69; also Revol 2015).

The idea was to fulfill entirely the program set by the methodology and questioning that undergirds continuous creation: is natural novelty the sign of the creative action of God within time? The answer given by the present work is affirmative under these conditions: (1) a biblically open conception concerning the different meanings of creation; (2) a furtherance of the dialogue of theology with Greek metaphysics provided some modifications are brought about to conceive mutability of forms; (3) the availability of the concept of natural novelty with an ontological consistency that must be established; (4) in the context of a vision of the world where constraints and contingency are understood as complementary, working toward the construction of a probabilistic order (not anymore a deterministic one) concerning the structures present in the universe.

Continuous creation can therefore be understood as a creative cooperation between creator and creation in the necessary temporality that serves to establish such a creative relation, calling for an interaction of all these diverse elements. The creative novelties are the manifestations of a new creative information that has proceeded in the intelligible and sensible worlds by the creative action of the Holy Spirit. This creative information is the fruit of configuration and reconfiguration, of primordial secondary causes in creation according to the arrangement of the primary primordial causes.

What about human creatures in this process? Human beings, as do all the creatures, participate in the measure of their faculties to continuous creation: through the exercise of proper creativity and inventiveness, by the choices that human beings pose through their actions. This is

manifested in professional activity, and technical, social, and political as well as artistic activities. However, we have to state that not all human actions will contribute to continuous creation. The criterion remains that of novelty: if the product of human action corresponds to criteria of novelty, then we can say that it participates in continuous creation and to the completion of creation—for instance, when we favor the development of biodiversity in an ecological perspective. It will therefore be possible to elaborate the project of an anthropology and an ethics building on this theology of continuous creation—further work that I plan to do in a proposal yet to come.

NOTES

1. This approach has had a legacy in the thought of Henry de Dorlodot, Belgian canon and palaeontologist, before Teilhard de Chardin, who sought to offer a Christian interpretation of the theory of evolution (de Dorlodot [1921] 2011).
2. Or “temporalities.”

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