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Nature and human being, a renaissance of the 20th century

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As our scientific conscience about nature has been deeply changed by the development of so-called 'quantum theory' during the 20th century, theology has been confronted with a new horizon of questions about 'God' and about how a human being has to be imagined in our cosmos. This article is a tiny comparison between the renaissance of thinking in line with the rediscoveries of Aristotelian thought in the West during 12th century and the renaissance of science we are witnessing in our age.

Contribution: In this series of contributions about theology and nature, this article contributes to a way of questioning theology and nature in a new, dazzling perspective about rerouting humanity in recent research about the smallest measurable values in nature, being perhaps a new *topos* of theological reflection that is characterised by God and contingency.

Keywords: renaissance; motion; quantum effects; contingency; vital force.

Introduction

The title of this contribution pays gratitude to the French historian and theologian Marie-Dominique Chenu, O.P. (1895–1990). He has been one of my deeply respected and esteemed *magistri theologiae*, one of the founding fathers of the so-called *Nouvelle Théologie*. During a period right before the Second Vatican Council (1962–1965), *Nouvelle Theologie* was a gathering of theologians – especially German, French, Italian and Dutch theologians – who wanted to renew the habits, the focus and the services of the old-school neo-scholastic theological work(s). Although the label 'nouvelle' was an invention by critics of these renewals, Chenu, a historian and specialist of the theology of the 12th and 13th centuries, especially the theology of Thomas Aquinas, has used his knowledge to give foundations of another, new paradigm of theological thought (Van den Hoogen 1983). The reconstruction of theological traditions that belong to the collective Christian memory raises new questions that people need to live with in human history and in societal future. He has always stressed that *questiones disputare* have been the heart of the matter in theology, not the answers or new theories.

A renaissance in thinking asks for a new theological reflection

This perspective is present in an article Chenu wrote in 1952 and re-edited in 1966: *La nature et l'homme. La Renaissance du XIIe siècle*.[1] Chenu stresses in his 1966 text that the historical theory of a Renaissance of the 12th century criticises the traditional Eurocentric Burckhardian theory of the 16th century Italian Renaissance. Chenu refers to Arab sources which support his theory of a 12th century Renaissance.

During this 12th century Renaissance, a new consciousness arises of what 'nature' is about, being a reality outside the human being, present to the human being, intelligible to the human being and efficacious towards human being (Chenu 1966:21). This new conscience was strongly influenced by discoveries of the texts of Aristotle which came to Europe via Arab sources. During the 12th century, research of natural causes became the most important activity of science. This implies a desacralisation of nature and of the human mind that studies nature – a huge new problem, as well as how to interpret symbolic language and rituals, for example, in the field of sacraments.

1.The original article was edited in: *Arch. d'hist. doct. et litt. du moyen âge,* XIX (1952), pp. 39–66; et *Cahiers d'histoire mondiale,* II (1954); re-edited in: M.-D. Chenu, *La Théologie au douzième Siècle 1966.* Subtitle of the article is only in the re-edition.

Note: Special Collection: Theology and Nature, sub-edited by Johan Buitendag (University of Pretoria).

At the same time, a religious and poetic idiom arises talking about Dame Nature. As it was not only the rediscovery of Aristotle that influenced new cultural idioms but the Platonic tradition of the *Timaeus* as well, the confluence of these traditions makes it possible that the reality of 'nature' can be understood as a 'scene' that has to be approached by using metaphysical-mystic language. The traditions of Pseudo-Dionysius the Areopagite are alive in, for example, the work of Johannes Scotus Eriugena. This makes it possible to develop an idiom wherein much attention is paid to the continuity between nature and human beings. The human being is considered a *homo artifex* who is to be defined by his relationship to *opus Creatoris* as well as to *opus naturae* (Chenu 1966:46). In conclusion, Chenu states that these are traits of a *bienfaisante crise de croissance* (Chenu 1966:51). In the framework of a new science, a religious discovery of the universe develops itself.

Rationality reconsidered

Comparable to the 12th century, the 20th century seemed to become a 'scene' for developments in physics and parallel sciences, where new rationality was a *topos* for a religious discovery of the universe. The London-based anthropologist Tony Watling writes that humans need a new language 'to re-root humanity in the earth' (Watling 2009:78).

Although many people stress the need for such a re-rooting, in the same vein, focusing on cosmologies of an 'alternative' coherence-shaping perspective (deep ecology, Gaia hypothesis), I would like – in line with the argument Chenu has adopted – to re-root the new imaginative language in new aspects of rationality that relate to what is called 'The Adventure of Physics'.

One of the most central concepts of modern physics is the concept of *motion*. Modern physics is focused on detecting motion as a reality of matter (Schiller 2021:vol. 4:17). In modern physics, a new category has been developed to approach this detection, that is, *quantum*. 'Quantum theory arises from the existence of the *smallest* measurable values in nature'. This generalises an idea of Galileo Galilei, who was interested in discovering the '*piccolissimi quanti*'. Nowadays, we know that the idea of the smallest change is necessary for a precise and accurate description of matter and of nature as a whole. The German-English physicist Max Born (1882–1970) adopted Galileo's term for the new branch of physics. He called it '*quan theorie*' or 'theory of quanta' (Schiller 2021:vol. 4:23–24).

In quantum theory, our 'normal', that is to say, our 'general' expectations about what reality is about must be revised fundamentally. Our expectations about what the smallest 'building blocks' of reality are must be revised. Even this metaphor 'building block' has to be reset, as it contains the suggestion of a nonmoving piece of material, for example, a Lego brick, as some explanations say. In quantum theory, we measure fields of energy, and a Lego brick is a field of energy as well. There is always *something* happening in nature. There is no rest in nature; everything is moving, all the time, at least a little bit. Biological research, for example, demonstrates that nature always make jumps. These jumps often are tiny and too small to be observed by our normal senses. From a macroscopic perspective and over a long time, we see motion. A mountain seems to be an 'archetypal system at rest'. But nevertheless, all the atoms and electrons are continually buzzing around. So there is '*motion inside matter*, a minimum action, *no perfectly straight or perfectly uniform motion*' (Schiller 2021:vol. 4:19).

There is another remarkable consequence of quantum theory. Normally, 'generally spoken', we have the idea that observers, observation and measurement of an object come from and stay outside the object. But Max Planck has discovered that the observers take part in the observed reality. Observation itself causes quantum effects. Planck understood that this discovery is as important and decisive as the discovery of universal gravity. Planck discovered that in nature *all times and all frequencies are due to the quantum of action.* All processes that take time are quantum processes. Even *waiting* is a quantum effect! In particular, without the quantum of action, oscillations and waves could not exist. Every colour is a quantum effect. But that is not all. Planck also realised that the quantum of action allows the *size* of all things to be understood. Every size is a quantum effect (Schiller2021:vol.4:20–21).

This has had a remarkable impact on the philosophy of science. The Nijmegen-based philosophers Lüthy and Palmerino (2022) write that the 17th century's scientific revolution:

> Witnessed the emergence of the idea of a physical world governed by laws of nature, which were universally valid and admitted no exception. In [*this*] mechanistic universe … nothing could happen at random … (p. 28)

But – to start with biology – things turned out differently. In the late 18th century and in the mid–19th century there culminated an evolutionary account of life forms in which neither design nor necessity but chance would, in fact, provide the required *explanans* (Lüthy & Palmerino 2022:35). Lüthy and Palmerino quote the French medical doctor and philosopher Julien Offray de La Mettrie (1709–1751), who in his famous *L'Homme Machine* provocatively stated that human existence had been thrown upon the Earth *au hazard*, 'just like mushrooms'. At the time, mushrooms were seen as imperfect beings generating themselves spontaneously (Lüthy & Palmerino 2022:36). The 18th and 19th centuries witnessed a veritable erosion of determinism (Ian Hacking), not only in biology but also in the domains of physics and philosophy. According to Lüthi and Palmerino, none of these discussions has come to a close. But they acknowledge that 'quantum mechanics merely states a range of possible outcomes, even though each probability can be precisely predetermined' (Lüthy & Palmerino 2022:40).

More information about quantum effects of all reality should explode the room for this article. With good reason, Schiller calls the analyses of these quantum effects a *fuzzy* thing, especially as we in 'normal' life – on a macro scale – are not aware that in the micro-dimensions of our daily life this fuzziness is there, always and everywhere. One more consequence is that quantum theory implies a new idea about *entanglement* in nature. The quantum of action implies that systems are not always independent but can be *entangled*. This term, introduced by the physicist Erwin Schrödinger (1887–1961):

> Describes one of the most absurd consequences of quantum theory. Entanglement makes everything in nature connected to everything else. Entanglement produces effects that *seem* (but are not) faster than light. (Schiller 2021:vol. 4:36)

The fuzzy character of nature's behaviour is the major reason that Schiller has entitled his first chapter about quantum theory as 'quantum theory for poets'. The never-ending motion in our reality and the dazzling effects of forms and combination of forms, the emergence and decline of forms of motions give reality aspects of deep and ceaseless variance that nobody can exhaust or drain. The theory of quanta is the new science of the present day. But it has raised new poetry as well. It is poetry that sings like the waves of polar light but also moves like the tiny creatures in the depths of Mariana Trench. It is poetry that reveals itself always and everywhere when a new living being is being born and always and everywhere as well when a mountain has survived the fire and the heat of plasma out of the deep kernel inside the planet Earth.

Meanwhile, a whole range of poems out of and about the quantum world has been raised.

Caltech physicist John Preskill is one of the world's leading researchers exploring quantum information and the application of quantum computing to big questions about spacetime. Preskill has a knack for explaining these complex topics in accessible and literary terms. Here is a fragment from a poem he wrote called 'Quantum Cryptography':

> With quantum states, what we achieve
> Defeats whatever you can conceive.
> So even Bob has to believe
> That you can't hear us, can you Eve?

'Surreal' science?

There is an important difference between Dame Nature, to whom Chenu refers in his text about the renaissance during the 12th century, and Eve, in Preskill's poem from 2001. 'Dame Nature' was real, as real as the imagination about this reality. 'Eve', on the contrary, in the new renaissance of the 20th century is surreal, as surreal as a quantum state. The moment we conceive Eve's 'existence', that moment her 'existence' defeats the imagination. Nevertheless, the poem lets Bob say: 'you can't hear us, can you Eve?' Whose voice is talking there? When Eve is a quantum state, so is Bob!

In this short reflection, it should be stated that Tony Watling is right by stressing the urgency of a new re-imagination of this world, made urgent by the new science and its consequences for the field of religion, society and environment (Watling 2009:77).

Watling is right in stating that the new science is not envisaged as 'materialistic, objective or reductionist'. But this does not necessarily imply that the new science is 'holistic, and organic, possibly spiritual and teleological' (Watling 2009:80), as he states. With Watling, I agree that humans are confronted with challenges to re-imagine their ongoing perceptions and conceptions of their world and of themselves (Watling 2009:93). But the very reason for this re-imagination is that – on a most fundamental level – the new science (of quantum physics) implies that every reality in which and by which humans live is contingent. The new science of the 20th century urges for and implies a new philosophical – and theological – reflection on the contingent character of the basic structures of reality. It is not necessary to switch too fast to theories about a coherent 'Gaia', even if theories about 'entanglement' are instructive, as this entanglement is a quantum reality as well, so 'it defeats whatever you conceive' (Preskill).

Contingency

As quantum theory defeats whatever one conceives, the first question about reality is a question about metaphysics. Traditional metaphysics, developed in Western thought, considers all reality being a natural unity because all reality comes forth from a principle of unity which is sufficient ground for everything that is. The One is the reality that unites everything and is the ultimate point of reference for humanity's search for truth. The multitude of beings is related to each other by this point of reference.

For many years, this way of metaphysical thought has been criticised by many philosophers. Many results of scientific research confront the public with a plurality of phenomena in this reality, a plurality that can hardly be reduced to one principle. Besides that, the many phenomena do not have a static character but behave as an event, and as there are many reasons to explain this event, its singularity cannot be reduced to one cause. Therefore, more and more attention is paid to the contingent character of an event. An event occurs but should have occurred in a different way or not have occurred at all. Quantum mechanics is especially confrontational regarding this contingent character of reality. The Dutch philosopher Van der Heiden (2014) summarises this by saying:

> Ultimately the concept of contingency is the secret of the event. To think the event in its most primordial dimension is neither to think it in relation to its consequences nor to think it out of the very flux of its taking place. Rather, to think the event is to think contingency – as the potentiality-of-being-otherwise. (p. 18)

Theological questions without a metaphysics of presence

During the 12th century, a *religious* discovery of the universe developed in the framework of new science. Is it possible that such discovery occurs now again? Is it possible that a contingent reality as that of quantum mechanics can be understood as a reference to the reality of God – God, as we understand this word in a Christian way?

An interesting example of how theological reflection offers an approach to this question is offered in a recent publication of two theologians from Pretoria, Nalwamba and Buitendag (2017).

They refer to the concept of *vital force*, a concept that is used by the African theologian Kaoma from an eco-hermeneutical perspective, in a section of Kaoma's book on 'Ecological aspects of Ubuntu', a section that is entitled 'The Spirit that holds the Universe together'. Kaoma makes clear that the concept of 'vital force' constitutes all forms of life, human and nonhuman, and – as Nalwamba and Buitendag affirm – represents an African ontology and cosmology.

To understand why the concept *vital force* is interesting to understanding how the world of quantum mechanics is able to refer to God, the reader may note that Nalwamba and Buitendag state that they consider this concept of vital force a pneumatological understanding of creation. This pneumatological understanding of creation has three dimensions, namely nature, spirit and Spirit. The first mentioned dimension (nature) is defined – referring to quantum physicist Erwin Schrödinger – as a continual exchange of energy on which the survival of the organism depends. This exchange of energy consolidates life and averts equilibrium.

In line with the first-mentioned dimension, vital force has to be understood as well as the cosmic spirit (second dimension). This cosmic spirit is considered ontologically present in (and enfolding itself in) all of creation, in all modes of *be-ing*, interpenetrating all that is, without being identical to all that is (Nalwamba & Buitendag 2017:4). A few lines further on, the authors quote another African theologian, Sindima, who calls this interpenetration 'the bondedness, the interconnectedness of all living beings' (Nalwamba & Buitendag 2017:4).

This reference is important as it shows that this cosmological perspective is not an ontology of 'the One'. Rather, it is an ontology of the Plural, an ontology of fecundity, an ontology of the community of life, as Sindima states. Although the question raised in this article – whether a contingent reality is that of quantum mechanics – is not at stake in the article of Nalwamba and Buitendag, an ontology of fecundity *can* be explained with help of the concept of contingency. Although I am a Western theologian and did not grow up in a world where the divine, the ancestors, the living and nature were interrelated (Nalwamba & Buitendag 2017:5), I feel related and I am able to understand that the concept of vital force is a notion that refers to the African milieu of life and has important convergence points with the notion of field force in scientific study (Nalwamba & Buitendag 2017:5).

The third dimension of this pneumatological perspective refers to Spirit. Nalwamba and Buitendag quote affirmatively the words of Sally McFague that 'the world is "charged" with God as with electricity' (Nalwamba & Buitendag 2017:5). They agree with her, stating that we live within the body of God. Like McFague, they confirm:

> That the world *is*, and *is not* the body of God, and that all things exist within the one reality that is and that reality is on the side of life and fulfilment. God as Spirit is the Power of life and love within which all bodies exist. (p. 5)

Although the theology of McFague is not focused on the concept of contingency, her words about the one reality of life and fulfilment could be understood in a way that the existence of all bodies implies a perspective of contingency and of irrevocable plurality.

To explain how a perspective of contingency and of irrevocable plurality can refer to the Christian belief in God, a text by the French philosopher Marion was examined, entitled *In the Name: How to Avoid Speaking of Negative Theology*. Marion agrees with philosophers like Derrida that theologians and philosophers have to abandon all kinds of metaphysics of presence and of negative theology. He agrees with Derrida that those of both perspectives confer the essence of God, the truth of God as Being. In a metaphysics of presence and in a 'programme' of negative theology the Being of God seems to be denied but is actually confirmed. According to Marion, this raises the question of whether 'theology, evoked by a Revelation [can] remove itself in principle from the metaphysics of presence or that in final analysis theology is reducible to this metaphysics' (Marion 1999:23).

Can theology be reduced to a metaphysics of presence? Marion denies this. He states that Christian theology is a theology that is evoked by a revelation. Reading meticulously the texts of Pseudo-Dionysios Areopagita, *The Divine Names* and *The Mystical Theology*, he shows that the structure of Dionysios' argument does not confront a positive affirmation of the Names of God with a negative one. The argument has a threefold organisation:

> It is necessary, at first to impose and affirm all theses of beings in so far as it is the cause of all, then deny them even more radically, as it surpasses all, finally let us not believe that the affirmations are the contrary of the negations, since [*the cause*] which is above every negation as well as every position, is still more above all privation. (Marion 1999:24)

Marion (1999) continues this quote of Dionysios saying:

> For the perfect and unique cause of all things is above every assertion, in the same way that what surpasses the total suppression of all things and is found beyond their totality is also above every negation. (p. 24)

Marion admits that this threefold argument is quite difficult to understand, but – he writes – this is the way Dionysios thinks. Marion stresses that the Dionysian argument does not confront naming God and not-naming God. According to Marion, Dionysios stresses that praising God requires a language that surpasses the use of names of God. Marion calls this the 'de-nomination' of the names of God, 'which denies all relevance to predication, rejects the nominative function of names, and suspends the rule of truth's two values' (Marion 1999:27).

Marion points out that Dionysios often uses the suffix 'hyper'. Talking about God is praising God as being the one who includes and *surpasses* (italics are mine) the differences between beings and nonbeings. The attribution of possible names of God makes – according to Dionysios – God not present but marks its withdrawal, anonymity, its absence.

Marion concludes that this de-nomination does not result in a metaphysics of presence but in the theology of absence. He quotes a text of Gregory of Nyssa that questions what Christians want to say as they baptise a human being in God's name. Gregory answers that 'the name' has the character of a supereminent creature that equally refers to 'Father', 'Son' and 'Holy Spirit'. That is the reason – so Marion – that the Name 'God' is not an essence but refers to what passes by every name. As in the Jewish tradition about the Tetragrammaton, the Name cannot and has not been used as a surname.

In this way, Marion clarifies that the Name is never an argument to confirm adequacy. The reality which is intended by the Name includes and surpasses everything that this word refers to. Marion states that the Name has the character of a 'saturated phenomenon'. This means that the Name is not given for the sake of saying it nor for the sake of denying it. The Name denominates all names, and it is there just to dwell in it, to let it call; the Name is not said, it calls. And because nothing terrifies humans more than this call, they hold it to be a 'fearful task to name with our proper names Him … to whom God has bestowed the gift of the name above all names' (Marion 1999:42).

Conclusion

The main intention of this contribution is to reflect on the theological questions that arise as theologians are confronted with a fundamentally new approach of rationality. That happens as they, by developments of quantum theory, can no longer trust their traditional expectations about the behaviour of natural reality. Research about the smallest values in nature urge reflection on metaphysics, especially the concept of contingency, as well as on the age-old theological questions about how theologians can possibly understand the names of God. Theology is challenged to develop a 'program' of de-nomination. That 'program' might be focused on the theological imagination and reflection on questions regarding how to understand all reality, and thus also its smallest values, as a gift.

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