

FREEDOM, COSMOS AND CHRIST

A search for an articulation between different orders of truths
that does not assign *a priori* boundaries to any of them

For freedom Christ has set us free - Gal 5.1

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Abstract

The question of freedom is one of the central issues of the dialogue between science and religion. Here, a multi-disciplinary approach is used to analyze the nature of freedom. Special attention is devoted to its ontological status. Scientific, philosophical and theological points of view are successively presented. Special attention is paid to the articulation between different approaches, so that the specificity of each is respected.

Introduction

The question of fate has a very long history in human culture. In ancient India , the image of the wheel (*chakra*) was sometimes used to symbolize the cyclic progression of time from which Gautama Buddha later proposed a way of liberation. In Greek mythology, three sisters (the three Moerae) were supposed to decide over everyone's longevity. Norse mythology has a direct equivalent with the three Norns. In ancient Chinese culture, the hexagrams of the Yijing reflected the idea that cosmic evolution could be described by a dynamic equilibrium between regular patterns. In practice, necessity and fate were seldom conceived as all-powerful, since human autonomy was experienced as a fact. However, humans were usually not viewed as the ultimate winners of

history. In the Greek culture, such pessimism was amplified in the tragedies of Æschylus and Sophocles.

As philosophy developed, many Greek and Roman thinkers explicitly raised the question of the compatibility between freedom and necessity. For them, the idea of a multiplicity of possible futures was difficult to reconcile with the notion of the unity of the cosmos. The observation that all events seem to have causes was also problematic. During the same period, divination practices were quite common in the popular culture.

When Christianity developed in this cultural context, some of the leading figures of the Church saw the need to clarify Christian teachings about freedom. The marked opposition of early Church fathers against fatalist doctrines was to exert a long lasting influence on western culture. However, the appearance of the doctrine of Pelagius at the beginning of the fifth century rendered the situation somewhat more complicated. Far from promoting fatalist views, Pelagian doctrine held that human deeds entirely depend on free will, independently of divine grace as well as of original sin. Augustine resisted vigorously to this doctrine by emphasizing that we cannot save us through our own will: only God can save us. As a corollary, however, his latest views on human freedom and predestination became rather intricate and difficult to follow. After Antiquity, philosophers and theologians continued to debate about the existence and the nature of freedom.

Arguably, the most important historical change affecting our understanding on freedom has not come from new philosophical ideas, but from the development of modern science. In remote times, people had already noticed that the trajectories of stellar objects obey some highly regular rules. During many centuries, this observation fueled astrological beliefs as much as it contributed to astronomy. The science of physics was deeply transformed when Newton's

laws led to the understanding that the same physics apply to all the observable cosmos. Since Newton's physics is fully deterministic, Laplace famously concluded that whoever could know the initial conditions of our world with perfect precision would also be able to predict the future. The question of human free will, which had already troubled the Greeks, became more pressing. Kant's solution was to confer freedom a kind of practical legitimacy in the domain of ethics, out of reach of scientific inquiry. His idealism, which led him to separate the human subject from the rest of the world, did not convince many scientists, however.

Until the end of the nineteenth century, it was still easy for scientists to believe that determinism could not apply to humans. The hypothesis that biological life is irreducible to chemical processes seemed reasonable, and was called *vitalism*. When the progresses of chemistry, together with the development of Darwin's theory of natural selection, showed that *vitalism* should be abandoned, it became also more and more obvious that even human mental mechanisms can be reduced, at least to a great extent, to a series of mechanisms explained by science. Darwin's theory shows that the biological basis for human conscience is a natural product of history, even if human behavior presents many distinguishing features [1]. Freud's theory shows that some of our brain's mechanisms can be explained by unconscious phenomena. What our unconscious does not monitor presumably corresponds to the most rational aspect of our brain functioning... which can be closely imitated by modern computers that are not usually considered to be a model of freedom.

As a whole, although the progresses of science and technology have increased the autonomy enjoyed by humanity relative to its environment, they have also led us to doubt our freedom much more than our ancestors. Rationally speaking, it is presently quite legitimate to have doubts about human freedom. These doubts cannot be dismissed by pure logics, whose relevance is sometimes over-

evaluated by some of the best experts of science and philosophy. An example is given by John Polkinghorne when he writes:



Of course, I am aware of the philosophical debate about human freedom, but for me it is a fundamental fact about experience. Deny it, and the very act of denial becomes the empty mouthing of an automaton. Ultimately the denial of human freedom is incoherent [2].

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The idea that “*the denial of human freedom*” is “*incoherent*” presumably stems from the feeling that determinism would render any evaluation of truth meaningless. However, this idea is not as convincing as it may seem, since we can imagine that it will be possible one day to let two robots invent a common language without having decided upon the meaning of a single word at the beginning of the game. At some point, the robots might find it useful to elaborate a certain notion of themselves, as well as a certain notion of freedom. Later, they might also start to wonder about their own freedom, and we should not be surprised if they concluded that such freedom does not exist. Their conclusion would be neither incoherent nor wrong. How can we tell from logics alone that we are really different from robots?

From a reductionist perspective, apart from logics, the most fundamental level for addressing issues concerning freedom seems to be the level of physics. This is why the first part of this article is devoted to the discussion of some aspects of physical laws. We then discuss the question of freedom from the respective points of view of philosophy and theology. Our presentation raises the question of the compatibility between scientific, philosophical and theological perspectives. The answer will be left for the readers to decide for themselves.

1. Physics

Experiments have shown that the functioning of our world seems to obey to many laws, among which only a few may be considered as possibly fundamental. Since, by virtue of inductive reasoning, it is reasonable to believe that the entire observable world is submitted to the same laws, it is most reasonable to think that human freedom, if it exists, does not violate these laws. Indeed, we know of no situation where humans can fix the laws of physics for themselves. Before raising the question of human freedom, it is therefore useful to try to understand the meaning of physical laws.

1.1. Laws

Let us start by examining the laws of quantum physics, which can presently be used to describe all known physical phenomena except those involving gravity. Robert Feynman once famously said: “*I think it is safe to say that no one understands Quantum Mechanics*” [3]. Paradoxically, the difficulty alluded here is linked with the simplicity of the fundamental principles of Quantum Mechanics, whose perfect linearity, in particular, is difficult to interpret. Quantum mechanics describes the dynamics of states that are also more constrained than their equivalent in classical mechanics, which results in the quantization of different energy levels. Why nature behaves in that way remains a mystery. The most enduring problem raised by the interpretation of Quantum Mechanics has long been called the *reduction of the wave packet*, although some physicists nowadays argue that this expression is inappropriate and that no *reduction* takes place.

The problem dates back to about 1921. Stern and Gerlach reported the results of an experiment that deeply worried some physicists. They had observed the behavior of a beam of silver atoms subjected to an inhomogeneous magnetic field oriented along a given spatial direction. The beam separated in two parts. No atomic impact was measured in the region between the two sub-beams.

Later studies showed that if atoms are sent one by one, each atom behaves as if it had belonged to one of the two sub-beams. The result of the observation of each atom appears completely random, and does not depend continuously on the initial properties of incident atoms. To this day, most physicists tend to think that the randomness associated with this measurement is genuine. Another striking property of the *reduction of the wave packet* is its apparent non-locality [4].

Nowadays, some physicists argue that the recently developed concept of *decoherence* explains away all the paradoxes of the *reduction of the wave packet*. But the origin of the randomness observed in *decoherence* remains mysterious anyway. Historically speaking, the probabilistic interpretation of the quantum wave function is due to Max Born, who immediately recognized its potential significance for the issue of determinism. When Born received his price from the Nobel committee in 1954 for his fundamental research in quantum mechanics, especially for his statistical interpretation of the wave function, he declared:



I think that the statistical interpretation of the laws of nature to which I have been able to contribute has stood the test; it is universally accepted today. A philosophy in which the notions of chance and freedom are fundamental seems to me preferable to the almost inhuman determinism of the previous epoch - but that is no scientific argument [5].

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Some distinguished physicists like Alain Connes [6] and John Polkinghorne [7], among others, are not convinced that quantum indeterminacy may have much to do with the question of freedom, since quantum randomness results from the measurement of microscopic particles, whereas most biological phenomena are macroscopic. However, it is doubtful whether, for instance, the coding of only

one molecule of DNA may be considered as a macroscopic phenomenon. More importantly, the latest developments of the theory of decoherence tend to show that *decoherence* happens nearly everywhere, notably in non-solid materials within which the entanglement between different molecules changes all the time. The question of whether decoherence effects will be useful one day to understand the functioning of the brain remains open.

Quantum mechanics was initially developed to describe the behavior of small numbers of particles, and it was not immediately clear that the same mechanics would successfully apply to the description of macroscopic objects. During a long time, physicists also wondered whether the principles of statistical mechanics established by Boltzmann and Gibbs were sufficient to account for phase transitions, or if supplementary ingredients needed to be introduced in the theory. In 1936, Rudolf Peierls showed that statistical mechanics contain the possibility, and even the necessity, of phase transitions by symmetry breaking. Since then, the progress of quantum statistics has shown more and more clearly that ingredients do not need to be added to microscopic quantum mechanics in order to understand the macroscopic world. This does not mean, however, that other laws than quantum mechanics cannot be used with profit to describe highly complex phenomena.

In biology, the principle of the *natural elimination of the most unfit* [8] discovered by Darwin is a good example. Since this principle applies to living entities that do not conserve the number of their molecular elements and are not conserved themselves (while some of them die, others come to birth), trying to derive Darwin's rules from the laws of quantum thermodynamics alone would be an impossible task. It would not be very meaningful either, since temperature, for example, plays no internal role in the natural selection of complex species and can be simply considered as an external parameter belonging to the environment. At least two sets of laws of higher order than

Darwin's laws emerge out of the complexity of the natural world. The first set corresponds to the laws of *ecology*: in a system composed of different biological species, cooperative processes between highly different species can occur, as for instance between humans and certain bacteria found in the digestive system. These cooperative processes are not opposed to Darwin's principles, but cannot easily be predicted by them.

Another set of rules that cannot easily be reduced to Darwin's laws or to any fundamental laws of physics is constituted by the rules of human languages. The way humans express themselves affects the way they select themselves for reproduction. This directly shows that the rules of language cannot easily be reduced to the rules of biological selection...

1.2. Complexities

As a whole, the natural world leaves us the picture of a superposition of different laws applying to more and more complex phenomena. In principle, higher order laws are supposed to be reducible to lower order laws, but such reduction cannot always be performed in practice. The most fundamental laws are usually thought to be those of quantum mechanics and of gravity, although even more fundamental laws than these may be discovered one day. Concerning the link between different levels of complexity, two interesting approximate features can be observed. The first is that atypical singular events producing themselves at a lower level of complexity may sometimes significantly affect the results of experiments designed for the study of higher order laws. Darwin's laws hold independently of the outcome of singular events, since the selection of natural species is statistical in nature. Yet the influence of singularities internally affecting the genome of a species, or externally affecting the chances of survival of a species, is not always marginal in history. The extinction of dinosaurs that probably resulted from the fall of a meteorite about 65 million

years ago and that opened the way for the development of mammals is a well-known example. At the level of human society, situations may appear in which all the conventional rules of language are respected and where everybody keeps repeating the same discourse until a single individual, sometimes quite ignorant herself/himself, says a few words that modify the whole situation. This happens in the tale *The Emperor's New Clothes* of Hans Christian Andersen.

Phenomenologically speaking, another feature of the relationship between laws belonging to different levels of complexity is this: knowledge about the laws belonging to a certain level of complexity cannot be obtained from observations restricted to a lower order of complexity. For instance, nobody can deduce from the observation of a single molecule whether this molecule belongs to a living organism or not. From the observation of a single human being we cannot know whether her/his attitude is influenced by a collective behavior. In this last example, is it even possible that this single human being may herself/himself be unable to know whether her/his own behavior is conditioned by a collective mechanism. A series of events may be perceived as (or measured to be) purely random from a localized point of view, and yet, at a larger scale, it may be discovered that such randomness participates into an oriented motion that is not random at all.

This last remark has indirect theological applications. We may imagine that under certain circumstances, humans are unable to perceive God's action because this action can only be discerned from a broader point of view, for instance from a historical perspective. In the rest of this article, this issue will not be raised again, but at least the question of the relationship between the scale of application of physical laws and divine providence was worth mentioning in passing.

1.3. The question of freedom

Coming back to physics, all the natural laws mentioned above constitute a set of imposed constraints that limit the number of possibilities opened for human history. Before going any further, it is useful to clarify what the word freedom itself can mean from a scientific point of view. At least two different kinds of freedom need to be distinguished, which we may call *practical freedom* and *ontological freedom*.

By *practical freedom*, we mean the freedom of a person who can perform the action she/he has chosen, and who has the feeling that she/he could act otherwise if she/he wanted. Of course, nobody can know for sure what she/he would do in other circumstances, since history is unique and since it is impossible to prove with certainty that history could be different from what it is. However, one can compare one's own actions at different times. This comparison enables us to conclude, through inductive reasoning, that some of our actions depend on our will. Inductive reasoning cannot guarantee that our conclusions are absolutely certain, but only that they are most reasonable, which is already valuable. Inductive reasoning assures us that our feeling of *practical freedom* is meaningful.

It is important to stress that the feeling of practical freedom remains meaningful even when the choice of a subject is quite predictable. For instance, if I like to eat chocolate, and if a friend of mine offers me some, everybody including me can predict that I shall gladly accept such a gift. Yet my feeling of freedom at the moment when I welcome the gift is legitimate if I feel that I could decide to refuse it if I wanted, perhaps only for the sake of testing my freedom. Again, this test would not offer absolute proof, since history is unique. Yet inductive reasoning would allow me to consider the result of the test as meaningful. As a whole, *practical freedom* may also be viewed as a kind of independence from external constraints as well as from personal desires.

By *ontological freedom*, we mean the independence of a subject relative to physical determinism. The use of the adjective *ontological* here is quite simple and consistent with the general practice of scientists like Bernard d'Espagnat [9]. On the other hand, such use is *not* in line with sophisticated philosophical theories of *being* like that of Martin Heidegger who writes: “*Scientific research is not the only manner of Being which this entity can have, nor is it the one which lies closest*” [10]. Certainly, the truth about what exists needs not be restricted to what science can say about it. But how scientific knowledge can affect our understanding of *being* cannot be decided by philosophers who do not take the pain to examine closely what science is about.

Freedom from determinism is more fundamental than *practical freedom* in the sense that it is possible to imagine that all humans enjoy a certain degree of practical freedom, while in fact none of them is ontologically free. However, it is also *a priori* possible that both *practical* and *ontological* freedom may simultaneously exist and be connected with each other.

1.4. Epistemological difficulties

Before addressing ontological questions in more detail, a last remark may be made. The recent advances in artificial intelligence tend to narrow the gap existing between humans and robots. Nowadays, robots can dialogue with humans, and learn from this dialogue. They can also make a lot of *choices* according to what seems best to them. They can be programmed to evaluate what we call *common good*, be *altruistic*, and even “*sacrifice themselves to be burnt*” if necessary, as Saint Paul says (1 Co. 13:3). They can do all that by relying on logics in a nearly perfect way since all their components are macroscopic. This is clearly expressed by Robert Laughlin:

Right now, chip manufacturers are fighting terrible problems of heat generation and optical lithography size constraints unlike anything they have

faced before, but nearly everyone believes these can be overcome in time to preserve Moore's law down to the quantum limit. In about a decade or so, however, the transistors will get so small that they will become quantum-mechanical – and thus begin making mistakes.[11].

In fact, the mistakes computers would start to make if their components became microscopic might also originate from the randomness of thermal processes, in addition to quantum processes. The lesson to draw from the observation of robots is that, independently of the issue of determinism, if we want our freedom to be any different from theirs, we need to leave aside the constraints of strictly rational reasoning from times to times, and behave as thermodynamic creatures that may enjoy the possibility of renewing themselves. To use a metaphor, maybe we need to accept that part of ourselves be obscure to us. Only if we behave differently from perfect robots is it worthwhile to enquire about the ontological character of our freedom.

2. Philosophy

2.1. Antiquity

Many philosophers have been concerned by the question of freedom in a way or another. Among them, let us recall Zhuangzi who imagined an imaginary dialogue between Confucius and a certain Yan Hui in which the former says:

Unify your attention. Do not listen with the ears, listen with the mind. Do not listen with the mind but listen with the vital breath (qi). The ears only listen to sounds. The mind is only aware of its objects. But to focus on the vital breath is to be empty and await the arising of objects. It is only the Way that settles in emptiness. Emptiness is the fasting of the mind [12].

Although the word freedom appears nowhere in this passage, what is at stake may be interpreted to be a kind of *inner freedom*, away from the external constraints of sound and reasoning. With less sense of spontaneity, the former Greek slave Epictetus developed an analysis that does not sound entirely different from Zhuangzi's lessons:

You will know by experience that [...] there is no profit from the things which are valued and eagerly sought to those who have obtained them [...] For freedom is acquired not by the full possession of the things which are desired, but by removing the desire [13].

Zhuangzi and Epictetus understood that cultivating one's inner freedom is at least as important as liberating oneself from external pressures. A few centuries later Gregory of Nyssa used the image of birth to show that freedom need not be viewed only as a kind of liberation *from* external and internal constraints, but that it can be positively oriented *towards* the aim of transforming ourselves:

In our world of things that become, no being remains always the same. To be subject to change means to come to birth again continually. But here, birth does not come from a foreign intervention, as is the case for corporeal beings that are produced from the outside. It comes from a free choice (proairesis), so that we are in a way our own parents, begetting ourselves in the form we want to be and through our own choices, modeling ourselves according to the model we choose [14].

Apart from the ancient philosophers quoted above, many others have promoted a vision of freedom including liberation both from outside and from within the subject. The experiences they describe are authentic, and often very useful for practical purposes. Yet most of them prove nothing against the idea of a modern *ontological* determinism, in other words against the kind of determinism that has been put to the fore by Newtonian physics.

2.2. Early modern approaches

After the Scientific-Revolution, a few thinkers became acutely aware of the fact that the understanding of the world developed by scientists had deeply modified the European culture, and that philosophy could not ignore it. Among them were Søren Kierkegaard (1813-1855) and William James (1842-1910). It was not a simple task for them to propose a philosophy that could take note of the advances of scientific knowledge without abandoning the idea of freedom that they cherished for personal reasons. In his *Johannes Climacus*, Kierkegaard argued: *“Immediacy is reality; language is ideality; consciousness is*

contradiction. The moment I make a statement about reality, contradiction is present, for what I say is ideality" [15]. This amounted to challenge the idea that the ontological level of reality can be accessed through science.

According to the above quotation of Kierkegaard, *immediacy* is truly ontological, whereas scientific knowledge only belongs to *ideality*. In a different context, theologians wishing to defend the existence of God have sometimes used a slightly similar reasoning; instead of pointing that language is *ideality* like Kierkegaard, they argued that it is *limited*, and that many phenomena remain unexplained by science. Since the 'God of the gaps' to whom we can securely attribute a domain of existence out of reach of human knowledge becomes more distant every time human science progresses, the result of this idea has been disastrous for theology. It may be feared that Kierkegaard's ontology presents some of the shortcomings of an 'ontology of the gaps': the part of human existence inaccessible to human language becomes more and more difficult to identify as knowledge progresses. The epistemology of science that is implicit in Kierkegaard's philosophy has never been very popular among scientists. His existentialist approach of freedom remains meaningful in its order, but does not effectively resolve the question of scientific determinism.

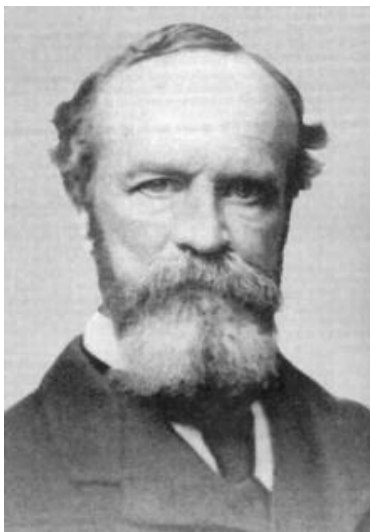


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The starting point of William James presents some similarities with that of Kierkegaard. James realized quite early that the crux of the issue between science and religion was whether humans have a free will. His study of science led him closer and closer to the mechanistic view, which he couldn't resign himself to accept. Then one day he wrote in one of his notebooks:

I think that yesterday was a crisis in my life. I finished the first part of Renouvier's second 'Essais' and see no reason why his definition of Free Will--the sustaining of a thought because I chose to when I might have other thoughts--need be the definition of an illusion. At any rate, I will assume for the present--until next year--that it is no illusion. My first act of free will shall be to believe in free will [16].

In *Principles of Psychology*, James later stated that:

When scientific and moral postulates war, and objective proof is not to be had, the only course is voluntary choice, for skepticism itself, if systematic, is also voluntary choice. If meanwhile, the will be undetermined, it would seem only fitting that the belief in its indetermination should be voluntarily chosen from amongst other possible beliefs. Freedom's first deed should be to affirm itself. We ought not to hope for any other method of getting at the truth if indeterminism be a fact [17].

The approaches of Kierkegaard and James are both existentially meaningful: in practice, we *necessarily* have to make choices. Even refusing to make choices would constitute a choice. Existentially speaking, we cannot use the hypothesis of absolute determinism as an excuse for behaving immorally. When we face concrete choices, it is irrelevant for us to ask whether the universe is deterministic or not since we cannot feel the difference within our bodies, whereas we clearly feel that we have to choose. We cannot ignore the practical choices to which we are confronted, whereas we can ignore the question of ontological freedom. However, this does not mean that the *choice of freedom* is more fundamental than an ontology based on scientific induction.

2.3. Two open questions

In order to successfully demonstrate that a subject is *not* ontologically determined, two major difficulties should be overcome. The first would be to show that at least some indeterminacies of the physical world can be related with the behavior of a subject. But this is not sufficient. The second difficulty would be to show that a subject is not conditioned by herself/himself .

The first difficulty could only be solved by people who would clarify whether random processes like those appearing in quantum decoherence or simple thermal randomness play a role at some level of human conscience or not. Only afterwards could philosophy give a name to the level of human conscience affected by indeterminacies. The name *soul* would be an interesting candidate. Let us stress that the impact of random processes in human brain functioning need not be particularly large to open the door for a potentially ontological kind of freedom since we already know that a lot of concrete human choices do not express the mind of the subject faithfully. If a subject is faced with two alternatives to which she/he attributes nearly identical levels of preference, as for instance 51/100 and 49/100, her/his choice can only poorly represent who she/he is. The ideal for us would be to be able to choose *how and when to choose*. However, in practice, few people, if any, can enjoy such a high degree of freedom. Therefore, the way human beings accept to take the responsibility for their actions is sometimes more instructive about the degree of freedom they have reached than the way they act. Fortunately, to accept oneself can also change the future. Whether the deepest level of human conscience involved in the act of accepting ourselves can be physically undetermined to some extent is plausible, but remains to be proven.

Even if the demonstration that our conscience is undetermined were finally provided by scientists one day, the second question mentioned above would still remain to be solved, i.e. whether it is possible to be free from oneself. For who decides who I am? If it's me, then I am not free to detach my acts from myself: I am conditioned by myself. If it is not me, then what I am is, at best, arbitrary, and at worst, conditioned. In *Being and Nothingness*, Sartre proposed a way out of this paradox by affirming that: "*Man is free because he is not a self but a presence-to-self*" [18]. However, it is dubious whether the notion of subject that would derive from this kind of proposal might have any consistence.

Logically speaking, it seems at first sight impossible to conceive that a subject may enjoy freedom from herself/himself, while still being a meaningful subject. So maybe freedom from oneself does not exist at all. Or maybe it can be found in a situation where others decide of the actions of someone while this someone simultaneously decides what others should do. From the point of view of a scientific philosophy, this idea seems unreasonable, even futile. Why should philosophy pay any attention to paradoxical ideas that cannot be tested scientifically and that *the mind of man cannot visualize* (1 Co. 2:8)? It happens that the idea of a relationship within which every person is entirely available, entirely given to the others and entirely free is found in the Trinity. This idea does not seem very wise, but if the Trinity exists, all our ontology needs to be revised.

3. Theology

It is not an easy task to discuss the Christian anthropology of freedom. During the Reformation period, profound disagreements appeared among Christians on this subject. Among the most prominent debaters figured Luther who wrote *De servo arbitrio*, Erasmus who wrote *De libero arbitrio* and Thomas More who supported the views of Erasmus. Division soon appeared among reformed theologians themselves, notably between Arminians and Calvinists. In spite of modern ecumenism, old theories continue to influence various theological trends until today. For instance, the supposition that our universe is entirely deterministic might leave a certain proportion of Reformed theologians indifferent, since the hypothesis of determinism does not fit badly with the idea that salvation through faith constitutes the only event capable of bringing authentic freedom to human lives. On the other hand, a deterministic view of world history would appear strongly uncongenial to most Thomistic theologians who would favor the idea that: "*Grace does not destroy nature but perfects it*"

[19]. Unfortunately, differences such as these cannot be minimized easily when discussing the question of freedom.

Since *the* Christian view on freedom does not presently exist, what follows corresponds only to the understanding of the author on this subject. For more security, the Bible will be examined in some detail. Since the authors of the Bible display no interest for what humanity would experience without God, asking the Bible whether humanity would enjoy freedom without God is not a relevant starting point. The best way to interpret the Bible is to try to enter in its dynamic. Concretely, our starting point will be the experience of the first Christians as it is described in the New Testament. Observations drawn from the Old Testament will be added in a second step. A few theological considerations will follow.

3.1. The Christian experience

The hope for a Messiah who would deliver Israel was widespread at the time of Jesus. According to the New Testament, Jesus, although not the expected political liberator, is indeed the Messiah (Mc. 14:51). He is the *Savior* (Ac. 5:31) who can free mankind from sin (Jn. 8:34-36) or from the 'law of sin' (Rm. 7:23), from evil (Jn. 12:31; see also Mt. 6:13) and from death (1 Co. 15:57). The name of Jesus himself comes from a Hebraic root meaning *salvation* that can sometimes be translated by *liberation* as well. In the New Testament, freedom is not presented as a rare miraculous gift. It can be experienced under many forms, notably *joy* and *confidence*, which according to the tradition transmitted by the Psalms sometimes result from a liberation from *sadness* and *anxiety*. Ministers in the New Testament preach frankly and with confidence, i.e. *parrhesia* (Ac. 2:29; 4:13.29.31; 28:31), which also denotes a kind of freedom. Ministry is performed willingly (1 P. 5:2) or, in the case of Paul, gratuitously, which is not requested from him by any instruction (1 Co. 9:15). Sharing with the needy is

an act of charity willingly accomplished by all the believers (2 Co. 8:8; 9:7). In one case Paul may be understood to have courteously pleaded for the liberation of a slave (Phm. 16).

Paradoxically, Christian life is simultaneously presented as a new kind of obedience, as when James exhorts: “*Talk and behave like people who are going to be judged by the law of freedom*” (Jm. 2:12). Paul himself declares:

But thanks be to God that though you were slaves of sin, you became obedient from the heart to that form of teaching to which you were committed, and having been freed from sin, you became slaves of righteousness. I am speaking in human terms because of the weakness of your flesh.” (Rm. 6:17-19).

The ‘freedom’ to live as a *slave of righteousness* may not seem very appealing. However, at the deepest level, the freedom to receive oneself from others and to give oneself to them cannot but include the notion of service and self-sacrifice. God’s freedom itself is essentially of this nature, as we shall see later. In terms of *vocabulary*, the opinion that Paul never used freedom as a key-notion of his theology [20] is tenable. However, in terms of *content*, the notion of freedom cannot be considered as secondary in Pauline writings. The idea that Gentile-Christians should remain free from circumcision and other Judaic practices constitutes the central issue of the whole epistle to the Galatians (cf. Ga. 3:13.25; 4:5.31; 5:1.13). The main theme of the epistle to the Colossians, i.e. the superiority of Christ over all the Powers, is also connected to the theme of freedom (cf. Col. 1:14; 2:10.20).

In the Epistle to the Romans, freedom means liberation from *futility*:

The creation is waiting with eagerness for the children of God to be revealed. For the creation was subjected to futility, not of its own will but by the will of the one who subjected it, in hope that the creation itself be set free from its bondage to decay and be brought in the freedom of the glory of the children of God. (Rm 8: 19-21)

The Greek word for *futility* (*mataiote*) used in Rm. 8:20 is the same as the one used by the Septuagint in the verse: “*Vanity of vanities! All is vanity*” (Qo. 1:2). This reference may help us to understand what Paul means by *futility* in Rm. 8:20. Interestingly, the book of Qohelet occasionally formulates some fatalistic views with subtle irony: “*What has been is what will be, and what has been done is what will be done; there is nothing new under the sun*” (Qo. 1:9; see also Qo. 3:15). Would that indicate that Paul’s soteriology is compatible with the idea of a fully deterministic universe? At first sight, the way Paul uses the word *stoicheion* may seem to support this opinion. *Stoicheion* comes from *stoichos*, which designates a *series*. Literally speaking, a *stoicheion* is what belongs to a series. Depending on the context, *stoicheion* may refer to (a) any first thing from which other elements belonging to a series take their rise, to (b) the elements from which all things come, to (c) the material causes of the universe, or to (d) the fundamental principles of any discipline as for the *Elements* of Euclid’s geometry, among other meanings.

In order to grasp the Pauline meaning of the word, it is useful to examine all its four occurrences in Pauline epistles:

- *Also we, as long as we were still under age, were enslaved to the elemental principles (stoicheia) of this world.* (Gal. 4:3)
- *How can you now turn back again to those powerless and bankrupt elements (stoicheia) whose slaves you now want to be all over again?* (Gal. 4:9)
- *Make sure that no one takes you captive with the empty lure of philosophy according to human tradition, according to the principles (stoicheia) of this world and not according to Christ.* (Col. 2:8)
- *If you have really died with Christ to the principles (stoicheia) of this world, why do you still let rules dictate to you, as if you were still living in the world?* (Col. 2:20)

In Galatians, the general context lets us understand that the *stoicheia* limit the human freedom of Gentiles in a way that is equivalent to how Mosaic Law

limits the freedom of Jews (cf. Ga. 4:5). In Colossians, the *stoicheia* are linked with pagan philosophy. Whether Paul uses the *stoicheia* to refer to the most fundamental elements of the cosmos or to the principles of some of the philosophies of his time is not clear. Col. 2:8 seems to favor the second alternative. However, Paul may well have both meanings in mind. In either case, the present lack of freedom of the world seems quite real. We have already seen that, according to Rm. 8:21, Paul considers creation to be “*enslaved to decay*”. In Col. 1:13, Paul uses a striking expression: “*He (the Father) has transferred us into the kingdom of his beloved son*”. Although the words *transferred* and *kingdom* are strongly metaphoric, they serve to convey the idea that liberation through Christ is quite concrete and real. For the disciples of Christ, “*what matters is a new creation*”. (Ga. 6:15). This being said, the “*enslavement to decay*” from which we are liberated does not necessarily mean submission to total determinism.

3.2. Towards a comprehensive biblical perspective

Globally speaking, what the Bible tells us about humanity before the Incarnation is not consistent with a deterministic vision of history. God grants humanity the relative freedom “*to have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth*” (Gn. 1:28). The way God creates the cosmos gives an idea of the way he wants humanity to interact with it, since humans are created in his image (Gn. 1:27). After the Flood experienced by Noah, God offers a covenant to all living creatures and promises humanity an environment within which it will be able to survive (Gn. 9:11). This covenant implicitly suggests that from now on, humanity will not be able to appreciate the cosmos as fully “*good*” in the way this could be done in mythical times (Gn. 1:31). Natural elements can be hostile to human life, and when Israel miraculously gets through all their mortal

dangers, instead of praising the goodness of nature, it can proudly mock: “*Why is it, O sea, that you flee? O Jordan, that you turn back?*” (Ps. 114:5-6).

The history of Israel is deeply marked by the successive liberations from slavery in Egypt and from captivity in Babylon. Many passages in the Psalms ask for God’s liberation or thank him for the salvation he has already granted [21]. As history develops, Israel progressively learns to be free and to love freedom, notably religious freedom as can be seen in the books of the Maccabees, Daniel and Esther. Most prophets behave courageously in front of kings as well as when they face general opinion. They act and speak as free men. They help Israel to realize its collective responsibility (Dt. 30:15-20) towards a covenant that has eventually been freely accepted (Jos. 24:16). Individual responsibility, both religious and moral, is also stressed in the Old Testament (Ezk. 18:4; 2 S. 12:7; Ps. 51:5-6). Ben Sira expresses his views on responsibility in philosophically even clearer terms: “*The Lord created humankind in the beginning, and he left them in the hands of their own counsel (diaboulon)*” (Si. 15:14). Literally speaking *diaboulon* refers to a cognitive activity, not to free will as such. The Hebraic word for *diaboulon*, *yqr*, cannot be translated by free will either. However, the context of Si. 15:14 clearly shows that Ben Sira means that humans can choose between good and bad actions. The Greek version of Ben Sira is even more convincing in this respect since we find again in Si. 15:15: “*to act faithfully depends on your own choice*”.

While God’s creatures enjoy some degree of freedom, they are not the ultimate masters of history. The good news that already appears quite clearly in the Old Testament is that God’s providence exceeds human understanding, and that he has the power to save us from many dangers. After many years of unexpected and chaotic tribulations, Joseph can say to his brothers in Egypt : “*And do not be distressed, or angry with yourselves, because you sold me here; for it is to preserve life that God has sent me before you*”. (Gn. 45:4). Narrative stories

like the story of Joseph and his brothers indirectly teach us that history can be viewed as a drama inside which God and ourselves are all active. In Gn. 37-50, Joseph performs as an actor in a story that he does not fully control. And so do we in our lives. Urs von Balthasar [22] has shown how all the Christian faith can be viewed from this perspective. The apocalyptic genre, as found in Daniel and the Revelation, presents God even more clearly as the ultimate Master of history who has fixed limits to the periods of distress. Christ, in whom God the Father “*chose us before the world was made*” (Ep. 1:4) is the “*Alpha*” and the “*Omega*” (Rv. 22:13) of this story. Far from rendering pre-Incarnation events meaningless, this Christological revelation confers them even more beauty and depth.

At first sight, the idea that human history is necessarily bound to end in Christ, the *Omega*, does not seem consistent with the idea of freedom. However, if we accept the idea that freedom does not consist in a Pelagian kind of choice between two equivalent alternatives, but in our victory over evil, knowing that God acts for our good and that we can ask for his help (Mt. 6:13) is quite liberating. Envisioning oneself as an actor in the human drama may also help us to get reconciled with the fact that we have not chosen our role: contrarily to what some existentialist philosophers would say, we are worth more than our acts, and we represent more than the meaning of these acts. Knowing this can help us to view ourselves with a certain dose of humor, which can sometimes be quite liberating.

The revelation of the New Testament goes further and invites us to direct our attention towards Jesus, so as to “*see the one they have pierced*” (Jn. 19:37). The death of Jesus on the cross reveals us that our human drama is not a game at which a semi-indifferent God would like to play with us. Our drama is real, and Christ’s love is also quite real. Jesus himself is the one who “*is*” (Jn. 8:24; 9:58), “*before Abraham ever was*”, which alludes to the name of God revealed

to Moses. In the Gospel, many persons who encountered Jesus decided to reorient their lives as a result. From the point of view of the Gospel, it would make no sense to imagine that their life was pre-determined all along, as philosophers arguing for compatibilism [23] would do.

3.3. Theological analysis

If we accept the idea that the people who changed their lives when they met Jesus were, through him, ontologically free to do so, then the bottom line about freedom from the biblical point of view is that whenever the Spirit is present, freedom is there, as Paul said in another context (cf. 1 Co. 3:17). If situations exist in which the Spirit is completely absent, determinism is also plausible in these contexts. The problem is to know whether such situations can correspond to reality or not. According to the Bible, the answer is globally negative. The general picture presented by the Bible is that God is always near (Ps. 139:7-12; Jon. 1:4). According to the book of Wisdom, he “*is found by those who do not put him to the test and manifests himself to those who do not distrust him*” (Ws. 1:2; see also Jn. 14:23). Pascal would later write: “*You would not be seeking Me if you had not already found Me*” [24]. Unfortunately, even if God is near, his love is not always perceptible, so that Job can rightly say: “*I cry to you and you do not answer me. I stand, and you merely look at me*” (Jb. 30:20). The good news of the New Testament does not put an end to human sufferings, but it multiplies for us the occasions to encounter God, notably through the gift of the Spirit and the realization that Christ is present in all the people who need help (Mt. 25:40). If He is present in and with every person in need, and if freedom is at hand whenever God is present, the question of determinism becomes a useless speculation for Christian anthropology.

It is precisely through the gift of freedom that we get qualified to enter in the mystery of the Trinity, as Paul says: “*And because you are children, God has*

sent the Spirit of his Son into our hearts, crying, 'Abba! Father!'. So you are no longer a slave but a child, and if a child then also an heir, through God" (Ga. 4:6). The Bible does not say that the Trinity *is* freedom. This kind of ontological statements about God is reserved for the words *love* (1 Jn. 4:8.16), *light* (1 Jn. 1:5) and *spirit* (Jn. 4:24). Since the Verb is God (Jn. 1:1), many other statements concerning God are also made through the person of the Son in the Johannine literature: Christ is *way, truth and life* (Jn. 14:6), *bread of life* (Jn. 6:48), *light of the world* (Jn. 8:12), *gate* (Jn. 10:9), *good shepherd* (Jn. 10:11), *resurrection* (Jn. 10:25), *true vine* (Jn. 15:1). Maybe the Gospel could have said that Jesus is *freedom*. Although the expression itself cannot be found, the idea is expressed in the way sheep can move to and fro: *"I am the gate. Anyone who enters through me will be safe: such a one will go in and out and will find pasture"* (Jn. 10:9). Jesus himself is free in the way he accomplishes his mission: *"No one takes [my life] from me; I lay it down of myself. I have power (exousia) to lay it down and I have power to take it again"* (Jn. 10:18).

All the Persons of the Trinity are also free 'from themselves', in the sense that they give themselves to Others and receive themselves from Them in a dynamic of love. For instance, the Father always hears the prayers of Jesus (Jn. 11:41); the Son always does what pleases to the Father (Jn. 8:29), and the Spirit *"does not speak of his own"* but takes what belongs to both Father and Son to transmit it the disciples (Jn. 16:13-15). The medieval formula stating that *"God is indebted to no one"* makes virtually no sense if it is applied within the Trinity itself. In particular, it cannot be used, as Okham proposed, to argue about the arbitrariness of God's free will. The logic of love is that each Person of the Trinity wishes to be infinitely indebted to the Others, freely, in love. Freedom is not a principle that needs to be added to love. It is a consequence of love.

Coming back to anthropology, the picture delivered by the Bible is that the relationship between God and humanity has already started at beginning of

human history and will develop until the end. The price to pay for our autonomy from God is that we cannot always feel his presence. As a result, we can easily doubt of ourselves, of our freedom and of God. Where the freedom of a person comes from is an enigma to which Christian faith gives no direct answer, maybe because what is a person is an even greater enigma. Faith in Christ solves nothing. But faith indicates us a way that we can follow in order to find freedom. This way is the service of others. Christ is present in them. With them we can become free.

From the point of view of systematic theology, the hypothesis of a pure deterministic world makes no more sense than it does for the Bible. De Lubac has drawn such a conclusion [25] from his study of the concept of *pure nature*, i.e. the concept of a *nature* fully isolated from the *supernatural*. According to de Lubac, *pure nature* represents little else than a speculation unfounded on Christian tradition and deprived of any concrete application. From this, two consequences arise.

The first is that theological knowledge has no direct application in science, since for science the hypothesis of God appears unnecessary, in conformity with what the mathematician Laplace once famously said to Napoleon.

The second is that not even a part of theological knowledge can be reduced to scientific knowledge. Pascal wrote that “*out of all material bodies and all minds put together, one could not extract a single impulse of true love; this is impossible, for love belongs to another order, a supernatural order*” [26]. The idea that at least two [27] different *orders*, the order of *matter/knowledge* and the order of *love*, need to be distinguished in order to describe reality, remains quite meaningful for contemporary theology although, following de Lubac, the two categories of *natural* and *supernatural* do not provide with a good criterion to distinguish between different orders. The *perspectives* as well as the *logics* of

matter/knowledge and of *love* are fundamentally different. The logic of self-reliance is not the same as the logic of the freedom experienced in Trinitarian love.

However, different logics can all be in search of the truth, inspire and inform each other as pope John-Paul II once wrote: “*Science can purify religion from error and superstition, religion can purify science from idolatry and false absolutes. Each can draw the other in a wider world, a world in which both can flourish*” [28]

Conclusion

The question of freedom is quite subtle, and it is hoped that the effort made here to present in an ordered way what can be said about freedom may help some readers to get a more comprehensive view on the issue. From the scientific as well as the existential points of view, it is not difficult to observe that humanity enjoys some degree of *practical freedom*. The question of *ontological freedom*, however, is much more difficult. Quantum mechanics tell us that our universe does not seem fully determined, but whether quantum randomness has anything to do with human *practical freedom* remains to be seen.

From the point of view of theology, *practical freedom* can also be considered as a fact. Theology may further confidently assume that human *freedom* has an ultimate authentically *ontological* character, but this conviction is rooted in Christ. Whether and how *ontological* freedom can be concretely linked with *practical* freedom and with physical indeterminism remains to be explained. It is quite conceivable that many events may simultaneously be viewed as quite natural from the human point of view of and yet divine from the point of view of God—in other words purely *random* from the point of view of physics and simultaneously *teleological* from the point of view of salvation.

Meanwhile, theology must also hold that God's interventions in history can sometimes be identified by believers, and that God can already transform us progressively (2 Co. 3:18) through the action of the Spirit. Maybe the more we shall know about freedom, the more we shall discover that we are ignorant. This is not to be regretted since, as Nicholas of Cusa said, "*a man, even one very well versed in learning, will attain nothing more perfect than to be found most learned in ignorance, which is distinctively his*" [29].

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[24] Pascal B., *les Pensées*, n. 553 of the Brunschvicg edition (Section VII : *La morale et la doctrine*). See also the new numbering of the same section proposed by Francis Kaplan in *Les Pensées classées selon les annotations manuscrites de Pascal*, coll. Sagesses Chrétiennes, ed. Cerf, 2005, n. 1405.

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[27] Pascal actually distinguished between three different orders: *matter*, *intelligence* and *charity*. Modern science has since shown that *intelligence* may emerge from *matter* in a rather ‘natural’ way, so that both may best be viewed as belonging to the same order. It would not be difficult for science to try to view *love* as a natural process as well. Sure enough, the attraction between lovers is a very natural process. But this does not prove that love is *nothing else* than a natural phenomenon. The demonstration that scientific reductionism applies to love will never come. What is unique cannot be reduced to what is not. Of course, one may doubt of the singular character of love, but in that case, one should also doubt about the generalizing power of inductive reasoning. The superior nature of love appears most clearly when love is directed towards enemies (Mt. 6:43-48; Lc .6:27-35). From the point of view of theology, what is most distinctive about love is that its most perfect expression *is* God.

[28] Pope John-Paul II, *Letter to the reverend George V. Coyne SJ., director of Vatican Observatory*, 1 June 1988.

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