

AN EXTENSIVE REVIEW OF RICHARD DAWKINS' *THE GOD DELUSION*

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Hint. If the reader is interested in browsing through the many citations from Dawkins' book, they may easily be located using the browser's *find* function giving it '(p.' or '(pp' (without the quotes). This pdf version was generated from the original html file, and many symbols were not properly converted; I had to manually convert them, so some have certainly been left out.

1. Introduction

Richard Dawkins's *The God Delusion* provoked many discussions. Many people made reviews of it, either praising or detracting it. Typically, the praises came from *materialists*, that is, people who consider that there are only physical matter and processes in the universe and in living beings. Detractions came in general from religious people, that is, people who follow organized religions.

I am not a materialist, but I do not belong to any organized religion either. I admit, as a *working hypothesis*, that there are non-physical processes in the universe and in all living beings, that is, processes that cannot be reduced to physical ones. In fact, I consider every physical process a manifestation of a non-physical one. Having this *spiritualist*, monist point of view, I cannot belong to any religion because practically all of them are dogmatic, requiring faith or belief. Furthermore, they usually have rituals, and I don't need and practice any.

I am aware of the problem of using the English word "spiritualist", because of its association with mediumship, talking with the dead, Kardecism, etc. When I use the word "spiritualism", I am not referring to any of these; I use it here simply in opposition to "materialism", as characterized above.

I stress that my position is to have working hypotheses, and not dogmas, faith or beliefs. Furthermore, religions are in general directed to feelings. I look for understanding through inner and outer observation, studying and reasoning. For more details on my world-view (which will be expounded here in many of its aspects), please refer to my paper [Science, religion and spirituality](#), linked from my home page.

My worldview leads to what I think are original views of Dawkins' fascinating book; this is the reason I am writing this review. I totally agree with some of his positions, but totally disagree with others. I have not read books with other reviews of his book and don't remember some comments I found some time ago on the Internet, so my own comments have not been influenced by them.

The book is very well written, has lots of materials and references, interesting reasoning and should be read by everyone interested in religion and science, particularly evolution.

This review covers each chapter and chapter section of Dawkins' book (the origin of the word "extensive" in my title), presenting literal citations of what I think are some of his most important points deserving discussion, followed by my comments. Obviously, the selection reflects my particular interests. I am using the paperback Black Swan edition, 2007; annotated pages refer to this edition. This edition does not carry numbers for chapter sections; in the sequel, I will introduce them. Thus, my chapter 4 deals with his chapter 1, "A deeply religious non-believer", so my section 4.1 deals with his first section of that chapter, "Deserved respect" and so on. To be faithful to his ideas, I make many literal citations of his book. In the citations, all the emphases (italics) of the original were transcribed, and no further ones were introduced. All biblical citations have been taken from the King James version. At the end of the References section, I give the Internet addresses to my papers cited in this review.

I am writing this paper in my limited English because I think Dawkins touches many universal questions, and English is far more universal than my mother tongue, Portuguese. Moreover, I want to permit him to read my comments and eventually give his own position – it would be a – wonderful surprise if he does it (albeit having communicated through his web site the existence of this review just after it was completed, up to June 27, 2009, I received no word from him). In this case, I will obviously insert his comments to my views on my web site along with this review.

In the sequel, Richard Dawkins will be abbreviated by RD.

2. Preface to the paperback edition

In the preface, especially written for the paperback edition, RD presents a "list of critical or otherwise negative points from reviews of the hardback." (p. 13). These points are all covered in the book and will be commented in the appropriate chapters.

3. Preface

In the preface, RD presents four "consciousness-raising matters": 1. "You can be an atheist who is happy, balanced, moral and intellectually fulfilled." (p. 23). 2. "The power of forces such as natural selection (p. 24)"; its description contains a brief summary of chapters 2-8. 3. "... children are too young to know where they stand on such [religious] issues" (p. 25). His point of view is that religious education of children is damaging to them; moreover, "There is no such thing as a Muslim child. There is no such thing as a Christian child, but a child with Muslim or Christian parents." (p. 25). 4. "Atheist pride." (p. 26). "My dream is that this book may help people to come out [as atheists]." (p. 27).

In due time I will comment on these matters. Here I just want to comment on RD calling himself "atheist". This is a curious denomination indeed, albeit a popular one. American Heritage (3d. electronic edition, 1994) defines it as "One that disbelieves or denies the existence of God or gods." Let me compare this phrase with another one, that will surely be embraced by RD: "I don't believe the Earth is flat." The latter statement uses "Earth" and "flat". Both are understandable concepts, the first one being also a concrete physical body in the universe which we directly experience. So, there is no problem in understanding what the second statement means. But how is it possible to understand "God or gods" – physical entities they are not. The concept of God or gods has varied enormously, up to the point that it has become a pure abstraction. One of the missions of the ancient Jewish people was exactly to disconnect the notion of God or, better, *their* God, Yahveh, of any concrete representation. So, if "God" and "gods" are not describable or understandable, how is it possible to state that one "disbelieves or denies" their existence?

I think the correct and precise denomination is not "atheist", but "materialist", as characterized in my chapter 1 above. RD's belief is that there is only physical matter or energy in the universe, and only physical processes involving them.

One of the problems with RD is that he directs his observations and criticisms to religions and religious people who keep talking about God (he does not mention in his books people who believe in various gods). But these people also have no precise understanding of what they mean by that entity. Many of his arguments and the arguments used by his critics seem to be like a conversation between born-blind people discussing the impressions given by colors.

Just as an example, let me digress on the question of monotheism. If one carefully reads the Bible books Genesis and Exodus, one has to conclude that there was one divine entity, Yahveh, associated to the ancient Jewish people, but in them there is no denying that there existed other divine entities. In fact, the first Commandment says "Thou shalt have no other gods before me." (Ex 20:3). This can be literally interpreted as other gods also existing, but the Jews should ignore them. It does not say that there is just one God in the universe; this could have clearly been stated. In fact, the first divine beings cited in the Genesis are the Elohim, which is a plural. Yahveh appears for the first time in Gen 2:4, and two forms are used from then on, Elohim (e.g. Gen 4:4) and Yahveh-Elohim. A third form, Yahweh alone, appears only in Gen 4:2, and from then on, the three forms are used. One may conjecture that the formulation was precise, and indicated different divine entities, a set of them (the Elohim) or just one (Yahveh), acting separately or jointly. For a long time, I had doubts on the question of monotheism – it seemed to me that it was a concept applied only *locally*, to the ancient Jewish people. Then I read the wonderful book by historian Howard Johnson, *The History of the Jews*, where he states that universal monotheism appears in the Bible only with Jesaiah [JON, chapter 2].

So here is my first comment on RD's book: he is criticizing religious points of view that have no precise meaning. He is correct in pointing to this fact, and

various problems arising from it. But there are other spiritual points of view which are not covered by his book. For instance, as I said, my central working hypothesis is that there are non-physical "substances" and processes in the universe, and also in every living being – which, with some elaboration, can explain why they have life, a big mystery for current science. In my papers and lectures you will never find the word God, RD's main concern, as the title of his book implies. In not using this word, I try to avoid the various interpretations given to this entity; here I also don't need this concept.

At the end of the Preface, RD justifies his use of the word "delusion" in the title. He understands it as a "false belief or impression" (p. 27).

4. Chapter 1 – A deeply religious non-believer

4.1 *Deserved respect*

This section covers points of view that have been called "religious" but are not associated with organized religions. His main example is what Einstein called "Cosmological Religion" (a name not mentioned by RD). Einstein was absolutely against what he termed "a personal God", who punishes or rewards individual acts (p. 36). RD is absolutely correct in saying that Einstein was an atheist. In my preferred terminology, he was a true materialist. For instance, he denied human responsibility. Commenting on the Christian maxim "Love thy enemy" Einstein wrote that "he agreed, as far as actions are concerned. "But, to me", he continued, "the basis for [my] thought is the confidence in an unrestricted causality. I cannot hate him [probably a hypothetical criminal] because he has to do what he does. Therefore, from my point of view, I stay more with Spinoza than with the Prophets." [JAM, p. 71]. From matter alone, responsibility cannot arise. Here he was following his admired Spinoza's determinism. But, when the horrors of the Nazi concentration and elimination camps were unveiled in 1941, he assigned responsibility to the whole German people [idem]. Thus, in these matters Einstein did not excel in consistency...

I have to comment a phrase in this section: "Human thoughts and emotions *emerge* from exceedingly complex interconnections of physical entities within the brain." (p. 34). RD expresses it as truth. Unfortunately, this is not a scientific fact, it is at most a scientific speculation, because we don't know how our thinking "emerges" from our brain, and much less our emotions. We don't even know where and how our memories are stored. For instance, neuroscience cannot point to the "place" in the brain where a simple symbol as the following, 2, is "stored", much less *how* it is stored and retrieved. Now take the concept of 2, what is common to all representations of this number, such as 2, II, ii, ||, .., "dois", "two", "dva", "shtaim", etc. This is a pure concept and has absolutely no symbolic representation, so how can it be physically stored in the brain or elsewhere in a human organism? Or take the concept of a perfect circle. Nobody has seen it, and it has no physical geometrical representation – we only see and draw approximations thereof. How can it be physically stored in the brain?

As a materialist, RD would say: "Sure human thoughts and emotions emerge from the brain, how could it be otherwise?" But this is no reason for making the statement on p. 34 cited above, as it was a fact. The pure concepts of 2

and of a perfect circle seem to be absolutely objective – everyone with a minimum of culture reaches exactly the same concept. A materialist such as RD may make the hypothesis that these concepts reside in the brain, but he cannot prove it. In the same vein, a person with spirituality may make the hypothesis, as I do, that these and other concepts do not reside in the brain, nor in any physical part of any human being. Our thinking, being partly non-physical, can reach the non-physical world of ideas where the concepts of 2 and of circle reside. I cannot prove that RD is wrong, but neither can he prove that I am wrong. Just as a side comment, the reader should notice that I do not need any notion of God to make this hypothesis. I only need the notion that the human being, with his thinking, is able to reach a spiritual, Platonic world of ideas where concepts reside. R. Steiner, in the book he considered his most important contribution, wrote:

“Materialism can never offer a satisfactory explanation of the world. For every attempt at an explanation must begin with the formation of *thoughts* about the phenomena of the world. Materialism thus begins with the *thought* of matter or material processes. But, in doing so, it is already confronted by two different sets of facts: the material world, and the thoughts about it. The materialist seeks to make these latter intelligible by regarding them as purely material processes. He believes that thinking takes place in the brain, much in the same way that digestion takes place in animal organs. Just as he attributes mechanical and organic effects to matter, so he credits matter in certain circumstances with the capacity to think. He overlooks that, in doing so, he is merely shifting the problem from one place to another. He ascribes the power of thinking to matter instead of to himself. And thus, he is back again at his starting point. How does matter come to think about its own nature? Why is it not simply satisfied with itself and content just to exist? The materialist has turned his attention away from the definite subject, his own I, and has arrived at an image of something quite vague and indefinite. Here the old riddle meets him again. The materialistic conception cannot solve the problem; it can only shift it from one place to another.” [STE, p. 49].

Nowadays, the main concept of material thinking is the computational model. I have many arguments against it but will mention only one: there is no synchronization of electric signals in the brain, neither globally (corresponding to a computer’s central “clock”, which generates the impulses used to synchronize all logic gates), nor locally. Moreover, it seems that neurons behave non-deterministically, that is, with the same inputs, a neuron sometimes fires, other times it doesn’t. All practical computers are deterministic, or forced to behave so, as in the case of nets – it would be a disaster if a computer or a computer network produced different results for the same input and program processing this input.

4.2 Undeserved respect

This section deals with the following: “A widespread assumption, which nearly everybody in our society accepts – the non-religious included – is that religious faith is especially vulnerable to offence and should be protected by an abnormally thick wall of respect, in a different class from the respect that any human being should pay to any other.” (p. 42). “I am not in favour of offending or hurting anyone just for the sake of it. But I am intrigued and

mystified by the disproportionate privileging of religion in our otherwise secular societies.” (p. 49).

RD is correct. Religions are in general more respected than, as he mentions, political parties (p. 42) or people.

I have an explanation for that. Religions are based upon feelings, and not upon understanding. In fact, if you are talking to some religious person and tell her that her religion is wrong in a certain aspect, one says in English that “you have hurt her feelings”. What happens to feelings in general is transposed to religions. There is a saying in Portuguese, “*gosto não se discute*”, “taste should not be discussed”. Everyone has his own, and it is not possible to say that he is wrong. For instance, my wife hates and has always hated papayas. It would be disrespectful to say that this is a bad taste, because it’s her own subjective matter. Moreover, she does not advocate eliminating papayas. Religious matters, as cultivated by most organized religions are also subjective matters. RD mentions various examples of religious fundamentalisms. They are all based upon feelings. A fundamentalist feels the world should be the way he feels it’s appropriate. It is a loss of time trying to reason with a fundamentalist about his worldview. It’s not reasoning that should demonstrate that he is wrong but reality itself, in the same way that it is impossible to use arguments to convince a madman that his (in general, quite consistent) worldview is wrong.

Should religions be like that? In my opinion, no. If religions had followed humanity’s development, they would have changed their basis from feelings or emotions, and dogmas, to understanding. From a spiritual point of view, it is possible to understand old religions and their scriptures. If each religion would try to understand other religions, there would be no more religious clashes. And no more religious fundamentalism.

5. Chapter 2 – The God Hypothesis

RD begins this chapter in a quite aggressive and exaggerated manner: “The God of the Old Testament is arguably the most unpleasant character in all fiction: jealous and proud of it; a petty, unjust, unforgiving control-freak; a vindictive, bloodthirsty ethnic cleanser; a misogynistic, homophobic, racist, infanticidal, genocidal, filicidal, pestilential, megalomaniac, sadomasochistic, capriciously malevolent bully.” (p. 51).

He largely is right. The problem is that he cannot understand the particular situation of the ancient Jewish people and their mission. For a materialist, during prehistory (after the appearance of *homo sapiens*) and history humans must have always been the same; culture has changed. A spiritual point of view may easily admit that mankind has changed – in its spiritual characteristics. Moreover, RD is taking the Old Testament literally, when it’s clear that what is written there quite often are symbols, images. At that time, people did not have the possibility of understanding concepts. The Christ Jesus has put it very clearly: in the parable of the sower (Mat 13:1-23, Luke 8:4-15, Marc 4:1-20), initially he speaks to the people in images, but after his disciples complain, he tells them the conceptual meaning of the symbols

(Mat 13:11, Luke 8:10, Marc 4:11). Note also "His disciples said unto him, Lo, now speakest thou plainly, and speakest no proverb." (John 16:29).

Obviously, the 7 days of biblical creation are symbols, and RD has absolute reason in criticizing people – creationists – that take them literally, e.g. as being 24-hour days. Just to mention how some biblical images may be interpreted, I have read a story, probably from the Talmud, which tells that the people of Israel, just after crossing the Red Sea, were jubilating that the Egyptian army was drowning. Then they heard a voice from the Elohim, saying something like: "My children are dying, and you rejoice?"

There was a deep reason for the ancient Jewish people trying to be ethnically separate: they had to create a special physical body for a special future event – but RD's materialism cannot understand these deep spiritual facts. The problem here is that much of what was correct for that time, is absolutely incorrect for our times.

Wars at those ancient times did not have the same meaning (or lack thereof) as in our days, where conflicts should be solved by negotiations. At that time, wars and conquests had a deep meaning, for instance those of Alexander the Great. Killing and dying had also another meaning and were felt differently from our way of regarding them. RD has literally lots of reason: if you press the pages of the Old Testament, lots of blood would drop from them. But this is exactly the same with other ancient texts, such as Homer's Iliad and Odyssey.

In this chapter RD defines what he calls "The God Hypothesis": "There exists a superhuman, supernatural intelligence who deliberately designed and created the universe and everything including us." (p. 52). He then makes the following statement: "God, in the sense defined, is a delusion; and, as later chapters will show, a pernicious delusion." (idem). He is correct in saying that God is a supernatural, that is, non-physical being. But, as I wrote above, he is referring to the biblical God (which one, Elohim or Yahveh?) and, as far as creation is concerned, takes the Genesis images literally. He is not the only one to make this mistake – most religious people who follow the Bible make it too.

He mentioned the creation of the universe. In fact, this is the simplest and strongest argument in favor of the assumption of a spiritual "reality": the appearance of energy and matter in the universe does not make physical sense. I will return to this point in section 5.3.

It seems to me that his book would have been more objective if he would have shown that materialism is a correct or at least a satisfying worldview, and spirituality is not correct or at least not a satisfying worldview. He writes, "I decry supernaturalism in all its forms, and the most effective way to proceed will be to concentrate on the form most likely to be familiar to my readers – the form that impinges most threateningly on all our societies." (p. 57). Sure, he covers the most popular religions. But does he know all the forms of supernaturalism or spirituality? I doubt it. I understand that he wanted primarily to show that many organized religions, especially Judaism, Christianity and Islam (the three Abrahamic religions), which have God as

their center, are unsatisfactory, contradictory and not suitable to our times. I agree. But the central problem is that these religions have lost their original contact with what they call God, and nowadays have no satisfactory concept about this entity. In many senses, they are as materialists as RD himself. In criticizing them, RD does not in fact criticize all forms of spirituality, mainly those which are suited to the human quest for understanding the material and the spiritual world.

One of the clear attitudes of most followers of organized religions is prejudice – to begin with, they are obliged to consider that their religion is the only correct one, or, at best, it's the best one. But when RD writes "I am attacking God, all gods, anything and everything supernatural, wherever and whenever they have been or will be invented." (p. 57) he is being extremely prejudiced: he declares not being open to any worldview that is not materialist. He has also the prejudice that every spiritual point of view has been invented, and not directly observed. Maybe RD has not realized that humans regularly exercise physically occult activities and contain occult processes. For instance, maybe he has not realized that he cannot prove to anybody that he is thinking a certain thought, that he is having certain sensations or feelings, or that he is perceiving in himself an impulse of will do something. Nevertheless, nobody will doubt that these are real human inner activities, by considering the following: "If I experience them, other people must experience them too." By the way, one of my fundamental hypotheses is that thinking, feeling and willing are not originally physical inner activities. For evidence of these facts, please refer to my paper "[A.I. – artificial intelligence or automated imbecility? Can machines think and feel?](#)" linked from my web site.

5.1 Polytheism

RD tries to show that the Catholic Church is in fact polytheistic because it uses the Trinity and adores Mary and thousands of saints. He mentions the 9 divine hierarchies (p. 55), but does not mention Dionysius the Areopagite, who wrote about them. Then he writes: "What impresses me about Catholic mythology is partly its tasteless kitsch but mostly the airy nonchalance with which these people make up the details they go along. It is just shamelessly invented." (p. 56).

He cannot prove that all ancient myths were invented, and not observed but expressed through mental images. Obviously, he cannot admit anything except that the Bible and other old scriptures are just inventions. Any true materialist must have such a view. But from a spiritual point of view, many of those myth images make sense, and express spiritual realities in humans and in the spiritual world. From this point of view, it makes sense considering that the spiritual world was opened to very ancient humanity, but at that time humans did not have developed abstract thinking, and could only describe their experiences as images, therefore the myths. Later, this contact was gradually lost, and only traditions remained. Finally, even traditions faded, and materialism was installed. From a spiritual point of view, this development was a necessity: if humanity had maintained its original contact with divine beings, it would have never developed free will, responsibility, moral based upon individual intuition, and the higher individuality which

transcends physical, emotional, and instinctive characteristics. For instance, the concept of reincarnation, which accompanied very ancient humanity had to disappear, otherwise materialism would have never developed. It was an essential part of early Buddhism, which stated that human living means suffering (having sicknesses, becoming old and dying), and the only way to escape suffering was to purify oneself and break the ties to the physical world, thus breaking the so-called "reincarnation wheel". The ancient Jews, and early and later Christians were instrumental in the necessary elimination of the experience and traditions related to reincarnation. But it can be found even in the gospels, for instance when the Christ Jesus says that John the Baptist was a reincarnation of the prophet Elijah: "I say unto you, that Elias is come already, and they know him not. ... Then the disciples understood that he spake unto them of John the Baptist." (Mathew 17:12-13). Paul refers to the fact that the Pharisees believed in reincarnation, but the Sadducees didn't (Acts 23:8). If humanity had preserved a correct notion and the observation of reincarnation, it would have never attained materialism, because from this point of view reincarnation simply does not make sense.

Here we touch a very important consequence of materialism: ancient humanity as a whole simply does not make sense, because it tells, through its myths, of direct contacts with divine beings or, in later times, still felt that there was some truth behind those images, that is, it felt that a spiritual world really existed, and humans had a spiritual essence. Up to the 15th century, nobody would have taken seriously someone who said that a spiritual world did not exist. In the 18th century many people had already doubts about it; one symptom is La Mettrie's book *L'Homme-Machine*, published in 1748. Thus, materialism erases an unsurpassable wall between us and our ancient ancestors. For it, they just invented superstitions and stories such as the Bible, with very little real, historical content behind them. Curiously enough, we are here because somehow our ancestors were sage enough to survive, produce descendants and leave for us an inhabitable world. For them, morality was imposed from without by divine beings, e.g. the Ten Commandments (they look like being 9 to me, the last one having been artificially subdivided into two). Can we be sure that our present materialistic wisdom will develop a morality based upon individual intuitions, and will make nature and humanity exist in the next centuries?

5.2 Monotheism

Here RD again literally and unduly transfers what was correct at biblical times to our own times and analyzes the old scriptures under the light of our present customs, ideals, and the way we regard humanity. The result is obviously a terrible impression, as he had already expressed in the text cited at the beginning of this chapter. RD makes the mistake of ignoring that humanity was different at biblical times. For instance, one may suppose that at that time the patriarchalism he despises was perfectly suited to the human inner constitution. RD correctly criticizes those people of our times who follow religious customs and directives that were adequate to ancient human beings, e.g. by assuming patriarchal attitudes. Abrahamic religions have progressed, but not as much as they should. For instance, Catholicism is not doing what it did during the terrible extermination of the heretic sects (Manicheans, Cathars, Bogomils, etc.) or during the Inquisition; nevertheless, it continues

to decree dogmas and other practices, and forces its adepts to follow them. As I said, modern humans want to understand, and participate in decisions, and should not be satisfied in having to accept unjustified commandments and having to blindly follow orders.

5.3 Secularism, the founding fathers and the religion of America

He starts by saying that "It is conventional to assume that the Founding Fathers of the American Republic were deists [people who believe that a God has created the universe and the physical laws, and "never intervenes thereafter" (p. 39)]. No doubt many of them were, although it has been argued that the greatest of them might have been atheists." (p. 60). He stresses the fact that "the United States was not founded as a Christian nation" (p. 61) and that "The paradox has often been noted that the United States, founded in secularism, is now the most religious country in Christendom, while England, with an established church headed by its constitutional monarch, is among the least. I am continually asked why this is so, and I do not know." (idem). He states three hypotheses: "England was weary of religion after an appalling history of interfaith violence"; "America is a nation of immigrants, ... many Americans see their own local church as an important unit or identity"; "the religiosity of America stems paradoxically from the secularism of its constitution. ... religion has become free enterprise." (p. 62). I will advance my theories about this phenomenon: Americans are in general less self-conscious than Europeans, and excess of materialism, which pervades American culture, makes people look for spiritual matters.

5.4 The poverty of agnosticism

He argues that one of the definitions of agnosticism, the impossibility of proving or disproving that God exists, is too weak. "... I shall suggest that the existence of God is a scientific hypothesis like any other. Even if harder to test in practice, it belongs in the same TAP [Temporary Agnosticism in Practice, p. 70] or temporary agnosticism box as the controversies over the Permian and Cretaceous extinctions. God's existence or non-existence is a scientific fact about the universe, discoverable in principle if not in practice." (pp. 72-3). Later, he says, "That you cannot prove God's non-existence is accepted and trivial, if only in the sense that we can never absolutely prove the non-existence of anything. What matters is not whether God is disprovable (he isn't) but whether his existence is probable." (p. 77). I think RD is confused here. When he talks about proofs, he is thinking of scientific proofs; current science is materialistic, and admits only physical, repeatable, falsifiable proofs. You cannot physically prove something about a non-physical "substance", entity, or process. Unfortunately, RD keeps fixed on the entity God. If he would have discussed the existence of a non-physical component of each human being, one could look for evidence. Here I will enter a very important subject: free will.

It is interesting that apparently in his whole book RD does not speak about free will and freedom. This is understandable: they do not make sense from a materialistic point of view. If humans are just the physical matter they are formed of, then they cannot exercise freedom. Matter inexorably follows

physical "laws" and conditions. Either human processes are deterministic, that is, each person's action is determined by the physical state of that person and her environment just before the action took place, or human processes are non-deterministic, leading to random actions. But neither of these is our inner experience. At this precise moment, I am concentrating my thoughts on this subject and how to express what I want to. How could I force this concentration if my thinking was a result of the physical states of my neurons? When I *decide* "I want to concentrate my thoughts on this subject", I may observe my thinking (using my thinking!) and notice that I can avoid all other thoughts, for instance about my wife making at this moment raspberry jam in our kitchen, and I should stop this work to help her. No, I want to finish this important paragraph, and I will stay here. Everyone may observe her own thinking and notice that she can decide what her next thought is going to be. For instance, put two equal electric bulbs horizontally on a white sheet of paper, with the sockets opposing each other and any printed labels hidden from your sight. Observe carefully both bulbs, then close your eyes and *decide* to recall the image of just one of them; concentrate your thoughts for a few moments only on that chosen image. You will notice that nothing, absolutely nothing forces you to choose one or the other image to be recalled. You will have observed that you are *free* to choose your next thought. If you trust your mental observation of your thinking, then you have to conclude that you may be free in your thinking, at least for some instants. I regard such mental experiments absolutely crucial, because if you conclude that sometimes you may be free in your thinking, then you have to conclude that there is something in yourself that is not subject to physical laws, because they are inexorable. Now comes a crucial point: you are composed of physical matter. How can one of your non-physical members influence your physical body? My theory is that our body is full of non-deterministic processes; when there is a non-deterministic transition from one state to some others (for instance, a neuron firing or not firing under the same input), then the *choice* of which transition to be taken does not require energy and can be influenced by some non-physical member of our constitution. This is how I explain organic forms – for instance, the fact that our ears are quite symmetrical, albeit growing during the whole life. How is this symmetry preserved during tissue growth or regeneration? It does not make sense to suppose that a small part of an ear grows, and it tells the corresponding part of the other ear that it's going to wait until the latter makes a similar growth so that the symmetry is not broken. Organic forms clearly follow a model, for instance the astonishing curve one may recognize at the wide tips of parts of a leaf of a Swiss-cheese plant/Split-leaf philodendron/Ceriman/*Mons-tera deliciosa* so common in my country, where it is known by the popular name *Costela de Adão* (Adam's rib – see to the right a picture I took of one of them). But this curve, similar in shape in all Swiss-cheese plants leaves, is not a physical model, it is a mental model which we recognize with our thinking when observing the leaf, it's an idea, that is, it's non-physical! My theory is that, during growth, this mental model directs the non-deterministic process of each leaf cell, changing its state to begin its subdivision (mitosis), its death (apoptosis) or continuing in its present state,



thus imposing the leaf shape. The other possibility is that each part of the plant communicates its growth to all others and mysteriously checks the invisible form of the mentioned curve – something which does not make sense.

Back to free will, it is important to recognize that the right to freedom is a relatively recent concept in humanity – for instance, the Old Testament does not speak against slavery, and Plato mentions slaves many times in his [Republic](#). In the last centuries the concept of freedom and the right to it has been ingrained deeply into cultured humanity. In particular, for scientists and professors it has a deep meaning for their life: the freedom of research and academic freedom. For example, if I am going to teach a course, its contents may be somewhat fixed (in general, with very little detail), but the way I teach it is a sacred part of my academic freedom. Art without freedom is condemned to extinction (see the case of the former Soviet Union). In fact, any human creative activity, including all professions, is more fruitful the more it is done in freedom.

If RD is a coherent materialist, he has to deny the existence of free will – and that's why he apparently does not mention it in his book. But deep inside his scientific mind, he must cherish it. He would strongly object if he were forced to write his books following a line imposed upon him. Obviously, he may criticize my mental experiment described above, and say that we have the *illusion* of being free to choose our next thought. I cannot prove that he is wrong, but I can say that this does not correspond to our inner experience, our inner observation of our thought processes, e.g. when choosing the image of one of the electric bulbs to remember. I am absolutely sure that, when RD began his book, he didn't have all his words in his mind. During the writing process, he certainly had many intuitions on what to write, and in which order. Intuition is unscientific: ideas coming from nowhere? RD would argue that his brain produced all his brilliant ideas and arguments. Is that our experience? If it were so, he would have said "My brain thinks that God does not exist". No, RD would say "I think God does not exist". When RD refers to his *I*, he refers to much more than his brain or any physical part of his body, much more than the way he wills, feels and thinks, and to his memories. If I am correct, there is something tragic happening when RD thinks, feels and wills: he thinks these are physical processes, but deep in his unconscious his spiritual *I* knows that they are not. In his consciousness, he is prejudiced – he is against anything supernatural. But his essence is supernatural. RD, as any faithful materialist, is himself a contradiction.

For more details, especially on the role of the brain, see my papers [Is there just matter or also spirit in the universe?](#) and [Science, religion and spirituality](#).

I emphasize what I said before: the crucial point is to recognize that each human has a non-physical element "inside" himself. I don't need any concept of God to speak about non-physical elements in each human or living being. And there is much evidence for the existence of non-physical constituents in each living being, freedom in thinking and organic forms being just two of them. I can't identify any evidence for the existence of a supreme spiritual entity called God. Not even the creation of matter and energy in the beginnings of the universe – RD must concede that the appearance of matter

and energy makes no physical sense. This creation could have been done by some members of the 9 Dionysius the Areopagite hierarchies mentioned by RD in page 55 (see 5.1 above). Maybe the biblical Elohim were a group of entities of one of those hierarchies – and not the supreme God himself. This has been coherently exposed in detail, but I am not going to digress about it because I don't want to appear sectarian. I may give interested people details where to find coherent descriptions of all this.

Speaking about coherent spiritual views of the world, unfortunately RD seems to ignore their existence. His concentration on organized religions makes him criticize incoherent and unpractical views of the world, which do not correspond anymore to the ideals of modern humans. Coherence itself is not a proof of validity. But if a coherent worldview explains lots of observable phenomena (including self-observable, such as one's thinking and feelings) and the history of mankind and makes us understand why ancient people spoke about divine beings, making us feel as their legitimate descendants – not just physically –, and has lots of practical applications, then one may find such a view trustworthy. It should obviously be taken as a working hypothesis, and not as faith.

5.5 NOMA

"NOMA" is an acronym coined by Stephen Jay Gould for "non-overlapping magisterial". Gould wanted to say that science and religion are non-overlapping: "The net, or magisterium, of science covers the empirical realm: what is the universe made of (fact) and why it works this way (theory). The magisterium of religion extends over questions of ultimate meaning and moral value. These two magisterial do not overlap, nor do they encompass all inquiry (consider, for example, the magisterium of art and the meaning of beauty)." (cited by RD in his pp. 78-9).

RD does not comply with Gould. He thinks the belief in God should be considered a scientific hypothesis. "... I suggest that a non-interventionist, NOMA God, though less violent and clumsy than an Abrahamic God, is still, when you look at him fair and square, a scientific hypothesis." (p. 85). He adds one of his main, or maybe his main credo: "Like nothing else, evolution really does provide an explanation for the existence of entities whose improbability would otherwise, for practical purposes, rule them out." (idem).

Here I don't agree with RD in a couple of items. 1. The method used by science and organized religions is essentially different. The former is directed to understanding, the latter to the feelings. 2. Science has to be based on scientific hypotheses and logical theories, and religions are based on beliefs and faith. For a thorough characterization and differences of these concepts, please see my paper [Science, religion and spirituality](#). For instance, scientific hypothesis should always be subject to revision; beliefs and faith are not; moreover, a scientific hypothesis should be formulated solely through concepts; religions do not formulate their beliefs and faith in understandable concepts. 3. There is an irreconcilable abyss between regular science and religion: the former is materialistic, and the second is (or should be) spiritual.

Let me digress on the third item. In my cited paper, I showed that there is a way of eliminating the gap between science and religion, that is, overcoming NOMA: the former should admit, as a working hypothesis, the existence of non-physical “substances” and processes in the universe, in particular in living beings. In other words, science should be *extended*. Its prejudice against considering any supernatural phenomenon restricts its research. I will give a local example from my country. In many Brazilian regions, maybe in the whole country, one finds huts and small pavilions with a special kind of thatch called *sapé* (pronounced sahpeh). There is an old tradition, maybe stemming from Brazilian Indians, that the *sapé* should be harvested during the last quarter of the moon, when it is disappearing, otherwise it will grow mold, insects, and so on. A materialist scientist would typically say: “This is superstition, how could the Moon have such an influence on plants, insects, etc.!” and ignore this tradition. The extended science I am proposing would, on the contrary, say: “There may be non-physical influences from the Moon, the planets and even the Zodiac upon plants and living beings, as in very ancient astrological traditions [not to be confused with the present play popularly called “astrology”]; I will investigate.” Another example: as we will see through RD’s own words in section 8.2, traditional materialistic science despises homeopathy (it is officially recognized as a medical specialty in Brazil; there is even an old Homeopathic School of Medicine in Rio de Janeiro), mainly because some potentiations (dilutions) are so high that no molecule of the diluted substance can be found in the diluent. Supposing that a plant has something non-physical attached to it (which, for instance, gives its life, growth, organic shapes, and symmetries, etc.), and the potentiation process could make some non-physical process of the plant pass to the diluent, then one could devise some experiments to test this hypothesis. For instance, use the potentiated liquid to irrigate some seeds and compare them with other irrigated with plain water, under controlled conditions, and see if there is a statistically significant difference in growth. Unfortunately, materialist doctors are prejudiced and just assume that eventual positive outcomes of homeopathic drugs are due to the placebo effect (see section 8.2 for RD’s own words about this) and do not make such and other experiments. These two examples show something weird: scientists – such as RD – should have no prejudices, but the materialistic dogma of not admitting anything supernatural (remember RD’s words in his p. 57 cited in my chapter 5 above) is exactly that: a prejudice.

In admitting dogmas and faith not subjected to discussion or research, religions are also prejudiced. So, I could say that Gould is wrong, but for another reason than that advanced by RD. Regular, materialistic science and religions overlap: they are both prejudiced.

I expounded my view that science could change, extending its methods and worldview by admitting as a hypothesis the existence of non-physical “substances” and processes, and thus approach religion. I think religions should also change and approach science: they should start looking for understanding and expounding their views in clear conceptual formulations. Instead of requiring belief and faith from its followers, religions should formulate precise concepts that can be understood, and elaborate methods for people to investigate what is occult from a physical point of view. Recall that in my chapter 5 I called the attention to the fact that each human being

has occult processes: her thinking, feeling and willing. Please refer to my papers "[Is there just matter or also spirit in the universe?](#)" and "[Science, religion and spirituality](#)" for further details.

Many years ago, I had a podium discussion in the Institute of Physics, University of São Paulo, with the late renowned Brazilian geneticist Clodowaldo Pavan. He was a declared Catholic, member of the Papal Academy of Sciences. Pavan said something like: "During the week, I wear my apron and go to my laboratory; on Sundays, I wear my suit and go to church. What's wrong with that?" What was wrong is that Pavan's way of thinking and attitudes in the laboratory and in the church were totally different, non-overlapping. To me, his situation was a tragedy because he lived a double, incompatible life. But he is just one person, and as far as I knew him, he did not suffer from double personality.

If science and religion would change along the proposed lines, they would converge, overcoming NOMA. Imagine the deep respect a scientist could have for living beings, if she would assume the hypothesis that they have some non-physical forces acting upon them! This leads to a very delicate question: I am sure that many materialist scientists respect and even reverence Nature (probably RD is one of them) but unfortunately, they are being inconsistent with their worldview, because from matter, no respect or reverence can arise. As RD said in the title of his first famous book, genes are selfish. Genes and matter have no respect. In particular, from matter it is impossible to derive freedom, responsibility and dignity. Why we have them, and plants and animals don't, can only be explained in spiritual terms: briefly, we have a spiritual member that they don't. That's why we have essential differences from a physical point of view, such as our erect position and our speech – our non-physical members influence the development of the physical (recall my theory on how this is possible, expounded in section 4.2). RD will surely say that all this is "explained" by natural selection. We'll get there in due time.

5.6 The great prayer experiment

In this section RD describes a double-blind experiment performed by British physicist Russel Stannard: "The patients were assigned, strictly at random, to an experimental group (received prayers) or a control group (received no prayers). Neither the patients, nor their doctors or caregivers, nor the experimenters were allowed to know which patients were being prayed for and which patients were controls. Those who did the experimental praying had to know the names of the individuals for whom they were praying – otherwise, in what sense would they be praying for them rather than for somebody else? But care was taken to tell them only the first name and initial letter of the surname. Apparently, that would be enough to enable God to pinpoint the right hospital bed." (p. 86). The practical experiment was conducted "under the leadership of Dr. Herbert Benson, a cardiologist at the Mind/Body Medical Institute near Boston. Dr. Benson was early quoted ... as "believing that evidence for the efficacy of intercessory prayer in medicinal settings is mounting". Reassuringly, then, the research was in good hands, unlikely to be spoiled by skeptical vibrations. Dr. Benson and his team monitored 1,802 patients at six hospitals, all of whom received coronary bypass surgery. ... Prayers were delivered by the congregations of three

churches, one in Minnesota, one in Massachusetts and one in Missouri, all distant from the three hospitals. ... The results, reported in the *American Heart Journal* of April 2006, were clear-cut. There was no difference between those patients who were prayed for and those who were not. There was a difference between those who *knew* they had been prayed for and those who did not know one way or the other; but it went in the wrong direction. Those who knew they had been the beneficiaries of prayer suffered significantly more complications than those who did not." (p. 87). The authors conjecture that the latter curious outcome was due to the fact that those patients could have suffered from "performance anxiety": they thought they were really in bad shape to need people praying for them, and this negatively influenced their recovery period.

I have intentionally skipped ridiculing remarks by RD along the text. He goes on to describing some justifications given by religious people on the negative outcome of the experiment. I totally agree with RD that they are sometimes ridiculous, sometimes outrageous.

Scientifically, the only conclusion one can draw from this experiment is that the way it was performed produced its (negative) results. It is not possible to draw the conclusion that prayer in general does not work. In fact, one may conjecture that just giving the initial letter of the surname was not enough (that is, maybe a personal knowledge was essential), the kind of prayers were not adequate, those who did the prayers were possibly not doing a totally unselfish action (maybe they were aware of the experiment and wanted to show a positive outcome, in favor of their faith), the intention of the experiment impaired the spiritual influence, etc. As an example, suppose during a rough drought a farmer prays for some rain. But if it rains over his farm because of his prayers, it is not going to rain somewhere else, hurting other farmers. This would contradict a "good" spiritual world, certainly part of the farmer's belief. Thus, a true prayer must be totally unselfish (more on this in section 8.5). By the way, unselfishness does not make sense from a materialistic point of view. RD's cherished Natural Selection is totally based upon selfishness: the survival of the individual or the species; for him, even genes are egotistical (cf. his famous book).

A phrase by RD is worth mentioning. Introducing the experiment described above, he says "The very idea of doing such experiments is open to a generous measure of ridicule." This is exactly an example of the prejudice cited in the previous section. It is really strange that a person who considers himself and is considered by others as a scientist has such anti-scientific attitude. Scientists should be always open and objective and should have absolutely no prejudices.

5.7 The Neville Chamberlain school of evolutionists

In this section, RD mentions creationism for the first time. He mentions the National Center for Science Education, which tries to mobilize religious people who admit evolution. He calls the attention that one of its tactics is "... espousing NOMA I agree that science is completely non-threatening, because it's disconnected from religion's claims." (p. 91). He puts himself against the trend that "Evolutionists of all kinds must likewise [as the USA and Britain

having joined the Soviet Union against Hitler] work together to fight creationism." (p. 92). He mentions geneticist Jerry Coyne, who wrote about "the real nature of the conflict" as follows: "It's not just about evolution versus creationism. To scientists like Dawkins and [E.O.] Wilson, ... the *real* war is between rationalism and superstition. Science is but one form of rationalism, while religion is the most common form of superstition. Creationism is just a symptom of what they see as the greater enemy: religion. While religion can exist without creationism, creationism cannot exist without religion." (idem).

Yes, the real nature of the conflict is not evolution versus creationism. But neither is it between rationalism and superstition, for the simple fact that the real conflict is between materialism and spiritualism (see my characterizations for both in my chapter 1). Furthermore, when RD discards any, as he says, "supernatural" influence, he is absolutely superstitious. In fact, *American Heritage*, 3rd edition, characterizes it partly as "An irrational belief that an object, an action, or a circumstance not logically related to a course of events influences its outcome." For him, every event in the world has only physical causes influencing its outcome. This is an irrational belief because he cannot prove it. Evolution theory cannot prove that life arose from matter – simply because natural selection can only be applied to living beings. Evolution theory has no significant scientific explanation for the appearance or disappearance of many species, as for example turtles and mammoths, respectively. It has no explanation for the appearance of human language [TAT], as RD acknowledges: "It is possible that some of the evolution of language is guided by a kind of natural selection, but that argument doesn't seem very persuasive." (p. 220). Evolution theory keeps talking about a common ancestor to both apes and humans but has no idea what this common ancestor could have been. And so on, *ad nauseam*.

I will expound here some of my views about creationism and evolution. As I have mentioned in my chapter 5, biblical creationists take at face value what are clearly symbols (or "parables", as the Christ Jesus refers to them in the gospels), which stand for subjacent realities. They assume, for instance, that the "days of creation" had 24 hours. So, it is not worthwhile spending time and energy showing that creationists are wrong. They are also superstitious.

Nevertheless, the fact is that Darwinian evolution is not satisfactory either. For instance, natural selection is characterized as "the survival of the fittest". But which are the fittest? As science is extremely reductionist, it cannot examine a group of living beings and determine, unless for some obvious cases (e.g., physical impairment), what individual is the fittest. There are too many variables to be considered, both internal as external to each living being. So, it must characterize the fittest as "the one that survives". Thus, from an *a priori* point of view, the characterization of natural selection is circular, that is, without basis. *A posteriori*, after an individual has survived, one may conclude that it was the fittest. But science is in the business of making predictions. A scientific theory that cannot predict the outcome of an experiment is not a good theory, or it is not even a theory, period. So Darwinian evolution contradicts this most basic tenet of science: predictability. Moreover, Darwinian evolution is far, very far from being a complete theory. If one examines most evolutionary explanations (and

evolutionists have such explanations for absolutely everything relating to living beings), one clearly sees that it is full of speculations, using relatively few real scientific facts. It is relatively easy to look back to evolution and speculate the causes of the appearance or disappearance of some living beings or certain of their traits. But looking forward to outcomes of evolution is another, much harder question. In certain cases, it seems to be easy to foresee some outcomes, e.g. if a transgenic species of a plant is developed to be resistant to some insect, new species of that insect with some variations will appear and attack that plant. But the whole detailed process of how this happens is not known.

So, I can accept neither biblical creationism nor Darwinian evolution. I will return to this subject in section 6.1, expounding my own creation and evolution theory.

5.8 Little green men

This section deals with extraterrestrial intelligence. RD's main point is that there are certainly aliens which are far more technologically advanced than us. He calls them "superhuman" (p. 98) and says: "In what sense, then, would the most advanced SETI [search for extraterrestrial intelligence] aliens not *be* gods? In what sense would they be superhuman but not supernatural? In a very important sense, which goes to the heart of this book. The crucial difference between gods and god-like extraterrestrials lies not in their properties but in their provenance. Entities that are complex enough to be intelligent are products of an evolutionary process." (idem).

My position about extraterrestrial intelligent beings (ETs) is the following. If there is a habitable planet in the universe besides the Earth, then there must be zillions of them; RD gives a "conservative estimate" of 1 billion (p. 165). Certainly, an enormous number of them must have civilizations that are far, far advanced than ours, e.g. 1 million years (almost no time in cosmological terms) technologically ahead of us. Then why are those people not here or we haven't caught electromagnetic signals from them? Either it is not possible to make such contacts, or aliens simply don't exist, and we are the only physical intelligent beings in the universe. This last conclusion makes all sense from a spiritual point of view because mankind could perfectly be the *raison d'être* of the physical universe. But it makes no sense from a purely materialistic point of view – that's why RD takes seriously the hypothesis of the existence of extraterrestrial intelligences. From this point of view, the existence of the Earth is just a chance happening. RD cannot ascribe to evolution the appearance of the Earth and its life; and he cannot prove that natural selection was responsible for the appearance of language and speech, much less to intelligence. As a matter of fact, intelligence itself is not a definable scientific concept, IQ tests notwithstanding.

Why is there so much research on looking for life outside the Earth, be it from the SETI side (looking for electromagnetic intelligent signals, for instance a sequence of prime numbers, as RD exemplifies) or sending probes to the Moon and Mars, looking for traces of water, organic materials, etc.? Because finding life on another planet would be a triumph of materialistic science over

many spiritual views of the world. From time to time, one reads news that some evidence of water was found in such and such planet or satellite.

I find SETI expenditures absolutely ridiculous. If scientists would cease to be prejudiced against the existence of supernatural phenomena, SETI would lose its main drive. Moreover, my logical reasoning above shows that either we are alone or there are other intelligent physical beings in the universe, but it is impossible to establish contact with them. In both cases, there is no sense in wasting money in SETI research. I once read that many years ago Senator William Proxmire cut the NASA budget for SETI saying something like "If we want to search for intelligence, we should start here in Washington!" This was the reason for SETI having passed, at that time, to be financed by private funds. After tens of years, absolutely no result has arisen from these expenditures – apart from indirect gains such as some technological advances. I will return to this subject when RD mentions the Anthropic Principle, in sections 7.5 and 7.6.

The confusion RD makes of non-physical entities (his "gods") with super-intelligent physical beings is ludicrous and does not deserve further considerations.

6. Chapter 3 – Arguments for God's existence

6.1 Thomas Aquinas' "proofs"

In this section RD cites the 5 proofs for the existence of God advanced by T. Aquinas (pp. 100-1): "1. *The unmoved mover*. Nothing moves without a prior mover. This leads us to a regress, from which the only escape is God. Something had to make the first move, and that something we call God. 2. *The uncaused cause*. Nothing is caused by itself. Every effect has a prior cause, and again we are pushed back into regress. This has to be terminated by a first cause, which we call God. 3. *The cosmological argument*. There must have been a time when no physical things existed. But, since physical things exist now, there must have been something non-physical to bring them into existence, and that something we call God." (pp. 100-1).

RD says "All three arguments rely upon the idea of a regress and invoke God to terminate it. They make the entirely unwarranted assumption that God himself is immune to the regress. ... there is no reason to endow that terminator with any of the properties normally ascribed to God: omnipotence, omniscience, goodness, creativity of design, to say nothing of such human attributes as listening to prayers, forgiving sins and reading innermost thoughts." (p. 101). He gives a logical reasoning which shows the inconsistency of God being omniscient (knowing the future) and being omnipotent but being unable to change his mind "about his intervention", otherwise he would change his previous knowledge of the future.

Aquinas' first two arguments are solely based upon the physical world. In the spiritual world physical laws obviously do not apply, because in this realm there is no physical matter or energy. Thus, it is not correct to apply to the spiritual world the same reasoning we use to the physical one. RD makes constantly this mistake – which is also common among many religious people.

God or gods are not omniscient. They cannot experience the physical world in the same way as we do, e.g., they have no eyes, they do not feel pain the way we do, etc. They are not omnipotent, because if they were, we could have never acquired freedom (cf. 5.4 above).

I don't agree with Aquinas' second proof: there is something that is the cause of itself: thinking. In fact, one does not need anything besides thinking in order to think. To become conscious of one's thinking one needs the physical brain, which reflects our inner processes to our consciousness; that's why "reflecting" is a synonym of "thinking". In thinking, the activity is identical with its object: "The object of observation is qualitatively identical with the activity directed upon it" [STE, p. 66, see also [the on-line edition](#)]; this is a unique phenomenon in the world.

Proceeding with Aquinas' arguments, RD cites: "4. *The argument from degree*. ... there must be some other maximum [than humans] to set the standard for perfection, and we call that maximum God. ... 5. *The teleological argument*, or argument from design. Things in the world, especially living beings, look as though they have been designed. Nothing that we know looks designed unless it is designed. Therefore, there must be a designer, and we call him God." (pp. 102-3).

According to RD: "The argument from design is the only one still in regular use today, and it still sounds to many like the ultimate knockdown argument. ... Thanks to Darwin, it is no longer true to say that nothing that we know looks designed unless it is designed. Evolution by natural selection produces an excellent simulacrum of design, mounting prodigious heights of complexity and elegance." (idem).

One sees here RD falling into the same problem as the creationists: blind belief. The latter believe in an abstract God. RD believes in natural selection; he thinks it explains every form and process in living beings. Both cannot prove that they are correct. The former use feelings, the latter uses an unproved theory which is highly incomplete. He would say that there is much evidence that confirm natural selection. I would say that there is much evidence that put universal natural selection in doubt. I have already mentioned in section 5.8 the questions of speech and intelligence. Craig Holdredge, in his paper "[The giraffe's short neck](#)" challenges the common explanation that through natural selection the giraffe elongated its neck to reach higher leaves. Holdredge cites many interesting facts such as female giraffes being shorter than males, and these animals having to make a big effort to drink, because their neck is relatively short and they have very long legs (to drink, they have either to open widely their legs, or to kneel). I add also the following. Changes in form are not due to natural selection, but to gene mutations. But to preserve a certain harmony in the animal and its relation to the environment, a huge number of mutations have to take place at the same time, just to provide for a slight change in form. For instance, a mutation producing a neck growth would cause an imbalance in the whole animal, thus many other mutations must happen at the same time. Moreover, evolution seems in some cases to have happened in jumps ("saltation theory"), and not continuously as one would expect from a steady number of mutations.

I will now advance my evolution theory. Mutations are probably non-deterministic transitions. This means that the cause for a mutation, e.g. a cosmic ray, may sometimes produce the mutation, other times may have no effect. Analogously to what I expounded in section 5.4, there may be a decision process involved in a mutation (to do it or not to do it) or set of associated mutations. This decision does not consume energy, so there something non-physical may influence the physical. Who takes the decision? A non-physical member in each living being, its idea, its mental model. Moreover, a whole plant or animal species may have a common non-physical constituent for the whole species and influence non-deterministic transitions in everyone. These non-physical entities may interact in the non-physical world and preserve the necessary harmony in the physical. In these terms, there would not be a single designer (God), but a myriad of designers, all interacting in the non-physical realm. Nature presents an infinite intelligence; intelligence cannot come from the physical world; it is an outcome of a non-physical process. One cannot ascribe intelligence to atoms or molecules. It occurs to me the phenomenon of the human heart formation in the embryo. This is an astonishingly, marvelous complex process, with many folds, unfolds, rotations and translations during development. One has to be really too naïve to believe that all that is programmed in the DNA or wherever, and it is a simple result of natural selection.

Let's proceed one step further. Natural selection requires encounters of individuals – fighting for their survival or mating. It also requires the individual's encounter with its environment. Now suppose that these encounters are also non-deterministic, that is, an individual may have at each moment a certain number of different ways to go. The choice of which way it should go, what other individuals and which environment it will encounter, could then be imposed by some of its non-physical constituents or more general (or "higher level") constituents of its species or even of other species. Thus, according to this theory, the "intelligence" expressed in certain mutations and natural selections is in fact the expression of non-physical intelligences connected to the individual and its species or group of species. The latter could explain some extraordinary phenomena of symbiosis.

Moreover, it is clear that evolution has a culmination, a pinnacle: the human being. It looks like all events in evolution were preparations for our appearance. We are the only living beings with the possibility of free will. This free will is what gives us our human dignity and responsibility – something plants and animals don't have. But, as I said in section 5.4, free will cannot be an outcome of physical matter and energy, which are condemned to follow physical laws and conditions, so this ultimate goal of evolution, having non-physical properties, must be the outcome of a non-physical evolution interacting with the physical world. Unfortunately, I cannot enter in detail to explain the whole process – it would take space and time, and maybe I would look sectarian if I did. Let me just advance that this evolution has already been outlined – and it is not based on the idea of a monotheistic God creating everything according to biblical images taken at face value.

Let it be clear that I believe in nothing (sorry, the only thing I believe is that I believe in nothing...); the first thing I don't believe is in casual or random processes, including those assumed in evolutionary theories. In living beings,

apparent physical randomness may be the result of a non-physical influence; using my theory, the cause (that is, the choice) of some physical non-deterministic transition may reside in the non-physical world.

Summarizing, my evolution theory is the following: physical evolution is due to mutations and natural selection, but both may be in some cases the outcome of non-physical processes connected to individuals. These non-physical processes influence the physical world by choosing some transitions from sets of non-deterministic ones in the physical body of each individual and in its interaction with its environment.

Observe that with this theory I *extend* Darwinian evolution theory.

6.2 The ontological argument and other a priori arguments

In this section RD argues against Anselm of Canterbury's *a priori* ontological argument for the existence of God, formulated in year 1078, in contrast to "*a posteriori* arguments, relying upon inspection of the world" (p. 104): "It possible to conceive, Anselm said, of a being than which nothing greater can be conceived. Even an atheist can conceive of such a superlative being, though he would deny it existence in the real world. But, goes the argument, a being that doesn't exist in the real world is, by that very fact, less than perfect. Therefore, we have a contradiction, and hey, presto, God exists!" (idem).

I have some problems dealing with this question and RD's arguments because, to begin with, I don't use the God entity in my reasoning about the non-physical world and its physical manifestations, mainly in living beings. Anyhow, my criticism of Anselm's argument differs from the various elaborations advanced by RD, which I will not expound here: again, we see in this case an undue mixture of the physical and non-physical worlds and concepts.

Let's examine the word "perfect". It is possible to conceive a perfect circle, that is, the geometrical loci of all points equidistant to a given point (the circle's center). But such a concept has no physical realization: any drawn or constructed physical circle is merely an approximation of the perfect circle. As I said in section 4.1, RD and other materialist thinkers would say that this concept resides in the brain of each person who thinks about it. My hypothesis is that this concept resides in the Platonic, spiritual world of ideas – that's why it is an objective concept, that is, it does not depend on the person thinking about it. It is *observed* by our thinking, which in my hypothesis may reach the non-physical realm. So, it is possible to think of a perfect "thing" in the world of ideas, but any physical representation of such an idea would not be perfect. The concept of perfect circle is not "less than perfect" because it has no exact physical representations or materializations!

One should not extrapolate our notion of perfection, or "more perfect" based upon our senses, to the idea of a perfect "thing" in the non-physical world.

6.3 The argument from beauty

RD uses in this section an argument advanced by some admirers of art: some pieces of art are so sublime, that God must be behind their creation (p. 110).

Again, my point is that human's creativity, including good science and sublime works of art, does not stem from the physical world, and for this I don't need a concept of God. RD and other materialists would say that Beethoven's brain created all his sublime masterpieces. The late Brazilian composer Willy Correa de Oliveira even wrote a book whose title, transliterated into English would be "Beethoven – the owner of a brain". Well, again, RD or Oliveira cannot prove that Beethoven's brain created his masterpieces, neither masterpieces of present scientists or artists. The fact is that Beethoven, cited by RD, was a unique composer at his early time; his style was a precursor, for instance of Schubert's (also mentioned by RD). How did Beethoven develop a new style? Certainly not as a combination of previous styles. On the other hand, just to mention two other musical geniuses cited by RD, J.S. Bach's style was an unequalled pinnacle of the baroque. Mozart was a miracle, but one may recognize his style as an evolution of Haydn's classicism, for example. Where do new ideas and styles come from? To cite a simple technological innovation, where did the idea of the zipper come from? Nothing similar exists in nature. When we classify something as "sublime", maybe we are intuitively associating it with the non-physical world. I am not saying that this proves the existence of a spiritual world, but it could be evidence thereof.

Speaking about geniuses, how can evolution theory explain their appearance? They are like discontinuities in a lineage – take for instance Bach's and Mozart's parents and children: they were good musicians and composers, but they were not geniuses as the former. Bach declared that his music was "inspired". In fact, he would have had no time to "calculate" all his intricate counterpoints and fugues, for instance in the creation of his Musical Offering or his Art of the Fugue. All this is, to me, an indication that geniuses have an "access" to the spiritual world, where they get their "inspiration" from.

6.4 The argument from personal "experience"

Here RD ridicules people who say they had an experience of something supernatural. (In this section, for a change, he does not concentrate on God, but speaks about Satan, angels, etc.) He says that these experiences are fabrications of the brain, such as optical illusions, dreams, etc. "The human brain runs first-class simulation software ... The simulation software in the brain is especially adept at constructing faces and voices." (pp. 113-4). These are more of his undue statements. RD cannot tell in what language this software is encoded, where it is stored, and where and how its interpreter is stored and works. (A computer does not execute some code, including code in its machine language; it interprets it.) The computational model of the brain is at most a very rough scientific speculation, without any basis in scientific facts whatsoever. We don't know how a neuron works, and much less a net of neurons.

"I say all this just to demonstrate the formidable power of the brain's simulation software. It is well capable of constructing "visions" and

"visitations" of the utmost veridical power. To simulate a ghost or an angel or a Virgin Mary would be child's play to a software of this sophistication. And the same thing works for hearing." (p. 115). He finishes this section talking about the "hallucination" seventy thousand people had at Fátima in 1917, where "the sun "tear itself from the heavens and come crashing down upon the multitude" (p. 116), speculates on possible causes for that experience (a mass lie, a historical mistake, or mirage) and says: "But any of those apparent improbabilities is far more probable than the alternative: the Earth was suddenly yanked sideways in its orbit, ..." (p. 117).

A materialist cannot ascribe any reality to the images of ancient myths, such as the Gilgamesh epic (3,000 b.C.), the Bhagavad Gita, the books of the dead, or the Bible, and cannot understand or admit that people may have a glimpse of the spiritual world, because for them the latter simply does not exist. What happens is that when people have this experience, if not previously prepared, they associate their experiences with what they know from sensing the physical world. This preparation was called in ancient times "initiation". In ancient Egypt and Greece this was done in the so-called "Mysteries" (Greek examples were Eleusis and Ephesus), special closed institutions where the disciple underwent a rigorous preparation, until the time arrived when he was immersed into a three-day lethargic state under the guidance of the so-called hierophant. In an almost-death state of consciousness, the disciple had experiences of the spiritual world and, when returning to normal consciousness, had remembrances of this experience and had the certitude of the existence of a non-physical world. Plato was an initiate, hence some of his highly esoteric dialogues, e.g. *Phaedrus*, where he speaks about reincarnation or *Timaeus*, about Atlantis. In many dreams, there is also the experience of something non-physical; upon awakening, the person interprets those experiences using images of the physical world – that's why so many dreams have no logical consistency; these types of dreams are not remembrances of physical experiences which have an intrinsic logic imposed by the physical world and its laws.

Thus, obviously the people at Fátima mentioned by RD did not see the Sun crashing, but this was the interpretation they gave to the supersensible experience they eventually had. It is ridiculous to criticize such images, because they do not correspond to physical phenomena.

Nowadays it no longer makes sense in having mystery states and being dependent upon a guru; any development of supersensible organs (which are latent in each individual) has to be done in full freedom, by inner introspection through meditation, that is, through a special kind of active thinking. It is possible to develop these organs up to the point where the experience of the spiritual world is done in full consciousness and self-control, in the same way one may choose what one's next thought is going to be. In this case, these experiences seem much more real than the ones done with the physical senses. They have nothing in common to what is popularly called "visions", which may be uncontrolled, unclear supersensible experiences. Many times, these visions give the impression that the person is experiencing something outside of her, but in reality, she may be experiencing through images her own supersensible personality. Obviously, all this does not make sense to materialists. Their prejudice against the spiritual world hinders them from

studying and understanding what was transmitted by great initiates and pursue their own inner development.

6.5 The argument from scripture

In this section RD criticizes the gospels. He correctly points to the many contradictions of Luke's and Mathew's gospels, including Jesus' genealogy (p. 120). In his words, "Shouldn't a literalist worry about the fact that Matthew traces Joseph's descent from King David via twenty-eight intermediate generations, while Luke was forty-one generations? Worse, there is almost no overlap in the names of the two lists!" (idem).

Matthew begins with: "1. The book of the generation of Jesus Christ, the son of David, the son of Abraham. 2. Abraham begat Isaac, etc." "6. And Jesse begat David the king; and David the king begat Solomon, etc." Luke does not list the descendants of Abraham, but Jesus' ascendants. Significantly, Luke's ascendants pass through the priest Natan, son of David (instead of Solomon, a king), through Abraham, going on up to "... Seth, which was the son of Adam, who was the son of God." (Luke 4:38). It is no coincidence that one reads in the Dead Sea scrolls that the Essenes were expecting, before the appearance of the Christ, two Messiahs, one a priest and the other one a king. The Catholic Church officially explains the difference in those genealogies saying that Matthew refers to Joseph's and Luke to Maria's. This is an unsatisfactory explanation, because at that time genealogies never referred to the mother's ascendants, but the father's. The name of a person was simply a name followed by the father's name – which is used till now in Arabic names, e.g. Abdulah ibn (son of) Saud. As a matter of fact, speaking about the Catholic Church, what was the use of the two gospel authors having the trouble to enumerate Jesus' genealogies if Maria was a (physical) virgin? Obviously, this is a symbol, an image for a deep significance, and should not be taken at face value. Again, I will not advance the details, but it has been shown that both genealogies make sense – they refer to two different stories. Mark and John do not start with Jesus' birth, but with the baptism in the Jordan, where the four Gospels begin to coincide. That is, for Mark and John Jesus begins to be and act like the Christ only after the baptism, and his previous story is irrelevant. All this, and much more, makes sense from a deep esoteric knowledge. It is possible to understand that the gospel authors were correct, their accounts corresponding to deep spiritual and physical realities, and their contradictions being only apparent. I don't want to appear sectarian and will not give the references here but may give them to interested people. Suffice is to say that RD makes precisely the same mistake as many religious Christians: from a materialistic point of view, the gospels do not make much sense and are contradictory. From this point of view, the gospels are just fiction: "The only difference between the *Da Vinci Code* and the gospels is that the gospels are ancient fiction while *The Da Vinci Code* is modern fiction." (p. 123). Recall what I said in section 5.1: from a materialistic point of view, not just the gospels, but also the whole Bible and ancient myths and scriptures are merely fiction. But this was not how our old ancestors regarded them. RD and other materialists, instead of trying to understand what the deep (spiritual) significance of those texts and legends was, just dig an insurmountable abyss between us and our ancestors. By the

way, *The Da Vinci Code* is a good mystery romance, but its historical account is rubbish, really invented fiction.

6.6 The argument from admired religious scientists

This section deals initially with the fact that famous scientists of old times (Newton, Galileo, Kepler, Faraday, etc.) were religious (according to RD, they were forced to be, "until – significantly I think – the nineteenth century, when there was less social and judicial pressure than in early centuries to profess religion, and more scientific support for abandoning it." (p. 124). RD simply cannot understand that up to some centuries ago people – including scientists – had an intuition and felt that there existed a spiritual world. organized religions did not progress to satisfy the quest of modern mankind for understanding instead of believing and having faith, so cultured people cannot anymore embrace religious ways of thinking and viewing the world; unfortunately, most don't know that there are ways of admitting the existence of a spiritual world, of investigating and understanding it, and fall into materialism. Most of them, as the case of RD, simply dismiss that world, thus missing the opportunity of entering in touch with a treasure of knowledge and research.

RD finishes this section with assessments of current scientist beliefs (which shows that the large majority thereof are "atheists") and mentions a study revealing that "religiosity is indeed negatively correlated with education (more highly educated people are less likely to be religious)." (p. 129). Yes, most scientists and cultured people are materialists. As I mentioned in section 5.1 this was a necessity. But the time has come where, using materialism as a basis, we should progress to a new spiritual view, preserving our consciousness, freedom, and objectivity which we acquired precisely by falling into matter and by developing a scientific attitude.

6.7 Pascal's Wager

Pascal's Wager is the following, in RD's words: "You'd better believe in God, because if you are right you stand to gain eternal bliss and if you are wrong, it won't make any difference anyway." (p. 130). RD correctly says that "Pascal's Wager could only be an argument for *feigning* belief in God."

6.8 Bayesian arguments

This section deals with a weird case of someone who arbitrarily calculated the probability that God exists and does not deserve any further description but for its last paragraph: "The whole argument turns on the familiar question 'Who made God?', which most thinking people discover for themselves. ... God presents an infinite regress from which he cannot help us to escape. This argument, as I shall show in the next chapter, demonstrates that God, though not technically disprovable, is very very improbable indeed" (p. 136). And we shall see that RD's arguments again unduly transposes reasoning based upon the physical world to spiritual realms.

7. Chapter 4 – Why there almost certainly is no God

7.1 The ultimate Boeing 747

The name of this section comes from an image attributed to Fred Hoyle: "... the probability of life originating on Earth is no greater than the chance that a hurricane, sweeping through a scrapyard, would have the luck to assemble a Boeing 747. ... This, in a nutshell, is the creationist's favorite argument – an argument that could be made only by somebody who doesn't understand the first thing about natural selection: somebody who thinks natural selection is a theory of chance whereas – in the relevant sense of chance it is the opposite. ... However statistically improbable the entity you seek to explain by invoking a designer, the designer himself has got to be at least as improbable. God is the ultimate Boeing 747." (p. 137-8).

I really cannot understand why RD says that natural selection does not involve chance. To begin with, neo-Darwinian evolution is based upon gene mutations and natural selection, not just the latter. As I explained in section 6.1, both have to be admitted by the present scientific worldview as random processes. Randomness is the basis for many modern scientific theories.

RD makes here a recurrent mistake for which I have already called attention: applying a reasoning valid for the physical world, based upon our senses plus mathematics, to a non-physical realm. Probabilities can be calculated for physical events. For instance, the probability of throwing a die and getting the number 1 is the number of desired events (1) divided by all possible outcomes (6). Whatever he or other people imagine God to be, he certainly is not a physical entity.

7.2 Natural selection as a consciousness-raiser

RD begins this section by saying how much it is important to raise consciousness, and he mentions the relatively recent feminist movement. Then he writes: "Feminism shows us the power of consciousness-raising, and I want to borrow the technique for natural selection. Natural selection not only explains the whole of life; it also raises our consciousness to the power of science to explain how organized complexity can emerge from simple beginnings without any deliberate guidance. ... Who, before Darwin, could have guessed that something so apparently *designed* as a dragonfly's wing or an eagle's eye was really the end product of a long sequence of non-random but purely natural causes?" (p. 141).

I totally agree with him as far as raising consciousness is concerned. It would be wonderful if materialist scientists would become conscious that it is possible to make the hypothesis that a non-physical world also exists, that it is possible to investigate it – albeit with other methods than the restricted ones they admit –, that it is possible to verify its influence upon the physical world, that a scientist does not have to abandon her consciousness and objectivity in order to make that hypothesis and investigate the non-physical world and, last but not least, that this would mean an expansion of the classical scientific method, and not its restriction.

On the other hand, I cannot agree with his statement that natural selection explains the whole of life. To begin with, science does not know what "life" is. Furthermore, as I mentioned in section 6.1, Darwinian evolution is an unproved, incomplete theory. Nobody has followed the evolution of dragonflies or the eagle's eye, so everything stated about them is not based upon scientific facts involving these animals. In this sense, I would not even call Darwinian evolution a theory, but a scientific speculation.

In the last section I have commented already on the question of randomness. I will make here two more comments.

Firstly, Darwin had a tremendous importance in the development of humanity. He was instrumental in breaking with religious traditions and belief. Without his contribution, humanity could have not fallen completely into materialism. This fall was essential for the appearance and practice of a new kind of spiritual view, one that is chosen in free will, and is not based upon faith, dogmas and feelings – as traditional religions are.

Secondly, in this section RD mentions natural selection's utmost simplicity (p. 142). I will mention here one of my aphorisms: "Mistrust any simple explanation for any process or form in nature." Nature is not simple. It has a complexity that by far surpasses our limited knowledge and wisdom. By the way, the most marvelous and complex physical entity is the human body. Natural selection is too simple an idea to be able to explain "the whole of life". I will give here two examples. Most of the people have learned the simple explanation that the heart pumps the blood through the body. Any engineer will recognize that this is impossible: there are thousands of kilometers of blood vessels in the body, most of them of capillary diameter; furthermore, the blood has a high viscosity. A pump to make the blood flow through the whole body would have to have a tremendous power. A biologist has made the following comparison: it is like having a pump pumping water from New York to San Francisco and irrigating the fields on the way. Moreover, what kind of pump is that which aches when one has, say, a big love frustration? The second example is the simple belief that tides are produced by the attraction of Moon and Sun over the seas. Their pull of gravity in fact is part of the process, but the situation is much more complex. One has to take into account winds and sea currents, the rotation of the Earth (Coriolis force), the form of the sea basin, etc. The resulting tides are the outcome of a resonance movement, producing a rotation of high tides around specific centers in the ocean (e.g. there is one such center in the South Atlantic, another in the North Atlantic), called Amphidromic Point, which has no tides.

It seems to me that one has to be too simple-minded to believe that natural selection can explain "the whole of life". Remember that I don't deny its existence; I only think it is not so natural as the name implies, and this makes it infinitely more complex.

7.3 Irreducible complexity

RD begins this section describing various examples of intricate structures of animals and plants, and states that they are not the result of chance; in one instance, he writes: "Once again, no, of *course* it didn't happen by chance.

Once again, intelligent design is not the proper alternative to chance. Natural selection is not only a parsimonious, plausible, and elegant solution; it is the only workable alternative to chance that has ever been suggested. Intelligent design suffers from exactly the same objection as chance. It is simply not a plausible solution to the riddle of statistical improbability. And the higher the improbability, the more implausible intelligent design becomes." (p. 145).

Let us recall that I am not an adept of the existence of a single non-physical designer, which creationists call God; I also cannot accept biblical creation at face value and admit that there was physical evolution (see sections 5.7 and 6.1). Nevertheless, as I said in section 7.1, chance is part of Darwinian evolution in general and of natural selection in particular. But what I want to comment here is that RD gives just one ground for his last phrase cited above: "Once again, this is because the designer himself (/herself/itself) immediately raises the bigger problem of his own origin. Any entity capable of intelligently designing something as improbable as a Dutchman's Pipe (or a universe) would have to be even more improbable than a Dutchman's Pipe. Far from terminating the vicious regress, God aggravates it with a vengeance." (p. 146).

Once again, our reasoning based upon the physical world should not be applied to the non-physical world. Once again, one should not think that creation in the physical world is the same in the non-physical and that God or any purely non-physical being was created in the physical sense. I will give here an example that everybody can experience. Thinking is self-sustained. As I said in section 6.1, when one thinks about thinking, the activity is identical with its object. This does not exist elsewhere in the physical world (and is an indication that thinking is not purely physical), that is, what we are used to apply to our experiences based upon our senses does not apply to our thinking, at least when we are thinking about our thinking. In fact, e.g., I digest food, and not digestion itself; I walk with my legs and feet, and not with my walking; I write a text, and not writing itself. But I may think about my thinking, that is, I observe my thinking with my thinking.

Let's look at a house. Certainly, one would say that it is highly improbable that all its elements (bricks, wooden boards, tiles, pipes, glasses, etc.) assembled by chance. But there was not just a single intelligent "designer". Well, the architect was a general designer, but he didn't give form to the various elements of the house: a master mason, bricklayers, painters, plumbers, etc. did. They followed the architect's master plan, but certainly many details were "designed" by those workers. If one considers all this work as part of the "design", yes, intelligent design is plausible (see [my text about it](#)). A house is something artificial, so the reasoning is clear. Nature is not artificial, but there is no problem in admitting that many designers gave its shape, as long as one admits the existence of non-physical elements associated with each living being and each species.

One of the biggest problems with Darwinian evolution is that the complexity and wisdom we encounter in nature leads very strongly to the supposition that there must have been some purpose, that is, some intelligence behind evolution. From a spiritual point of view, this purpose is clear: the appearance of humans and their developing higher individuality (which greatly differs

from animal individuality) and free will, cf. section 5.4. For example, we would have never developed thinking and free will if we had not developed bipedalism.

RD goes on saying that "... natural selection is a cumulative process, which breaks the problem of improbability up into small pieces. Each of the small pieces is slightly improbable, but not prohibitively so. When large numbers of these slightly improbable events are stacked up in series, the end product of the accumulation is very very improbable indeed, improbable enough to be far beyond the reach of chance." (p. 147).

First of all, RD has not accompanied each "small piece" of evolution in any living species. Secondly, as I mentioned in section 6.1, just one mutation does not work. To pass from one species to another, many mutations have to happen almost simultaneously so that the resulting organism is viable. So, one does not have a series of single mutations, but a series of large sets of them, and this turns the whole process highly improbable.

Richard Lewontin, in his book *The Triple Helix* [LEW] shows experiments where the growth of cloned plants (that is, all with the same DNA) depended not only on the environment (altitude) but also from a third factor, which he called "noisy development", that is, some random process influences growth. For further details, please refer to my essay "[Considerations about the DNA hype](#)". As in general I don't believe in chance, to me there must be a reason behind the differences – the different action of the non-physical model (the third factor) of the plant interacting with the genes and the environment. Moreover, one knows that changing some gene of a seed or egg may produce a change in the form of the final living being. But in general, it is not known how the whole process of the gene regulating the final form takes place. Certainly, the characteristic curve formed by the wide tips of a Swiss-cheese plant leaf (*Monstera deliciosa*) mentioned in section 5.4 is not due to a random growth of each part of this leaf. One more example: how come a conifer maintains its conic shape during growth? If plant growth is due only to the inner development and the time of growth, the inherent randomness of organic processes would not maintain the characteristic of the forms and their typical symmetry. If the form of living beings is an open question, which is relatively simple in comparison to other processes, how come RD is able to say that natural selection explains everything?

Notice that creationists speak about the creation of species. I am talking about the form of each individual to conclude that there must be something individually non-physical associated with each individual, which controls its growth and regeneration. It contains the "model" characteristic of each species; a change in this model may give origin to a modified species.

The rest of the section is devoted to "irreducible complexity". RD cites Darwin: "If it could be demonstrated that any complex organ existed which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down. But I can find no such case." (p. 151).

I have two arguments here. 1. Nobody has followed the "successive, slight modifications" of any species (recall the number of gaps in evolution trees –

see next section); 2. The number of simultaneous "slight modifications" have to be quite high. For instance, the erect position of humans depends on a big number of factors: the form of feet and legs, the vertebral column, a specific balance of all parts of the body, etc. Just one "slight modification" would produce an imbalance.

7.4 The worship of gaps

RD says that it is characteristic of scientists rejoicing with ignorance, because this gives them more food for their research. On the other hand, "one of the truly bad effects of religion is that it teaches us that it is a virtue to be satisfied with not understanding" (p. 152) because then the inexplicable factor is attributed to God's action: "Gaps, by default in the mind of the creationist, are filled by God." (p. 154).

I totally agree with him. Any unknown factor should be a possible subject of research. That's why I base my ideas on hypotheses and not faith. But one has to concede that the gaps in evolution trees (yes, there are many, conflicting types of them) are still too big to guarantee that we know how each species evolved. In this section RD applies a common saying by scientists: "If we don't know something today, we will know it tomorrow". I am sorry, but science's method has put limits to its own knowledge. Nobody knows what the quantum theory spin of an atomic "particle" is (it is not a classical rotation, the name notwithstanding), and we will never know, because it has no classical limit; nobody understands what is the quantum entanglement of "particles" (an action propagating instantaneously independent of distance); the Uncertainty Principle says that we will never be able to count how many electrons exist in the universe (independent of the usefulness of such a count); using the present methodology, we will never know how the universe started and what is beyond its limits. Unfortunately, many scientists are not modest, publicly recognizing that their methods may put some limits to knowledge. Physicists know about their limits; it seems that evolutionists don't and are wishful thinkers: they are sure they will be able to fill all the "gaps".

RD has a good point against creationists: "Darwinism raises our consciousness in other ways. Evolved organs, elegant and efficient as they often are, also demonstrate revealing flaws – exactly as you'd expect if they have an evolutionary history, and exactly as you would not expect if they were designed." (p. 161). I am not sure that our anatomy or physiology could be better, mainly considering deep reasons that are not scientifically known yet, for instance their relation to psychological and psychic states. One of the things I don't agree with is "Many of our human ailments ... result directly from the fact that we now walk upright with a body that was shaped over hundreds of millions of years to walk on all fours." (p. 161). Maybe the ailments come from our sedentary type of living, which does not correspond to what we should do (e.g. doing constant physical exercising). Anyhow, where is our direct ancestor who walked on all fours? Darwin thought that we descended from apes; modern evolution theory shows that this is not possible, and there must have been a mysterious "common ancestor". This ancestor could have been something different than humans and apes but could have been humans. In fact, if one takes the human body and mentally

modifies it, one gets every animal. But the contrary is not true: if humans did not exist, it would be impossible for an intelligent ET to examine all animals and deduce our form (for instance, none of them have the vertebral column with our double S-shape). Maybe the (non-physical) idea of the human model is the origin of all animals!

7.5 The anthropic principle: planetary version

A long time ago I studied the anthropic principle, advanced by Brandon Carter, John Barrow and Frank Tipler, and as far I remember it, it dealt with the astonishing coincidences of physical constants and laws (see next section), and the planetary situation of the Earth, which lead to the existence of life and humans. Their conclusion is that these coincidences had a purpose, the existence of the human being, hence the title of the principle.

RD gives another interpretation. In this section, he says: "... I'll introduce the idea on a smaller, planetary scale. We exist here on Earth. Therefore, Earth must be the kind of planet that can generate and support us, however unusual, even unique, that kind of planet might be." (p. 162). To me, this is no principle at all, it is simply a tautology. He says that the anthropic principle used in this section is based upon statistics: "It has been estimated that there are between 1 and 30 billion planets in our galaxy, and about 100 billion galaxies in the universe. ... Knocking a few noughts off for reasons of ordinary prudence, a billion billion is a conservative estimate of the number of available planets in the universe." (p. 165). He goes on to estimate the chance of life appearing by chance in a planet, "one in a billion planets ... And yet ... [his ellipsis] even with such absurdly long odds, life will still have arisen on a billion planets – of which Earth, of course, is one." (idem). He uses this figure to dismiss the creationist, or design principle.

In section 5.8 I've already commented on the question of intelligent life existing in other planets in the universe: either they don't exist, or it is impossible to establish contact with them. So, let's forget their existence and deal with our urgent problems here on Earth, among others the fact that we are irreversibly destroying nature, and stop investing money to discover water, methane or life outside our planet – just for the sake of demonstrating that the materialistic world-view is correct (it cannot admit that we are the only intelligent physical beings in the universe).

7.6 The anthropic principle: cosmological version

RD begins this section by citing the astonishing coincidence of the values of physical constants being as they are – slight differences would not permit the existence of life: "Physicists have calculated that, if the laws and constants of physics had been even slightly different, the universe would have developed in such a way that life would have been impossible." (p. 170). One of these constants is the "magnitude of the so-called "strong" force, that binds the components of an atomic nucleus. ... The relevant point here is that the value of the strong force crucially determines how far up the periodic table the nuclear fusion cascade goes. If the strong force were too small, say 0.0006 instead of 0.0007, the universe would contain nothing but hydrogen, and no interesting chemistry could result. If it were too large, say 0.0008, all the

hydrogen would have fused to make heavier elements." (pp. 170-1). In the latter case, there would have been no water. RD goes on to say "The theist says that God, when setting up the universe, tuned the fundamental constants of the universe so that each one lay in its Goldilocks zone for the production of life. ... as ever, the theist's answer is deeply unsatisfying, because it leaves the existence of God unexplained. A God capable of calculating the Goldilocks values for the six numbers [he had previously cited six constants but expounded only the strong force constant] would have to be at least as improbable as the finely tuned combinations of numbers itself, and that's very improbable indeed. This is exactly the premise of the whole discussion we are having." (pp. 171-2).

One sees his recurrent argument about God. I don't use this entity, but I must again state that he is employing to the non-physical realm a reasoning which is only valid for the physical one: who created God (as though he were a physical being which had to be created) and how improbable he is (probabilities are calculated for physical objects or phenomena).

He cites yet another argument. We don't know why the six numbers are the way they are, but "The six numbers may turn out to be no freer to vary than is the ratio of a circle's circumference to its diameter. It will turn out that there is only one way for a universe to be. Far from God being needed to twiddle the six knobs, there are no knobs to twiddle." (p. 173). Here we see again the standard wishful thinking used by scientists: if we don't know something today, we will certainly know it tomorrow (see section 7.4). RD says that he does not agree with this argument: "It is indeed perfectly plausible that there is only one way for a universe to be. But why did that one way have to be such a set-up for our eventual evolution?" (idem). Here RD cites the theory of the existence of multiple universes, each one eventually with different physical constants. He even cites "... a Darwinian natural selection of universes in the multiverse ..." (p. 175). I won't go into this "multiverse" question, because it seems to me the result of academics who are paid to think and write papers, and it does not matter if the latter show a minimum of common-sense or have any practical value: by construction, a universe cannot communicate with another one; how could there have been a "natural selection" among them? RD position is "The key difference between the genuinely extravagant God hypothesis and the apparently extravagant multiverse hypothesis is one of statistical improbability. The multiverse, for all that it is extravagant, is simple. God, or any intelligent, decision-taking calculating agent, would have to be highly improbable in the very same statistical sense as the entities he is supposed to explain." (p. 176). Here we see again his recurrent argument, which I have already commented on.

One more point seems to deserve comments. RD writes: "Science explains complex things in terms of the interactions of simpler things, ultimately the interactions of fundamental particles. I (and I dare to say you) think it a beautifully simple idea that all things are made of fundamental particles which, although extremely numerous, are drawn from a small, finite set of *types* of particles." (p. 176). Unfortunately, particle physics is incomplete, beginning with the wave-particle duality. The present theories are derived from experiments (using huge accelerators) that greatly alter the particles themselves, and probably create a plethora of them that do not exist in

nature. For instance, take the interference experiment – making a beam pass through 2 small holes and examining the wave pattern produced on a screen behind the holes –, used to show that particles (and, lately, even macromolecules) behave like waves. First of all, “wave” is a mechanical concept; one would have to show how the wave propagates when there is nothing to swing and transmit the wave, as is the case with electromagnetic (including light) waves. Secondly if, for example, a beam of light or of atomic particles passes through two small holes and produces an interference pattern in a screen behind the holes, at most one should scientifically say that light or particles when interfering with the holes produce a wave-like pattern. What physicists do is to unduly extrapolate this pattern to the nature of light and particles *before* their having hit the holes. Secondly, we cannot apply to atomic particles our common reasoning based upon our senses. As I referred to in section 7.4, nobody knows what the spin of a particle is, because it has no classical limit. If we would apply our common reasoning, one should immediately ask why the electron is supposedly indivisible. Just cut it in half! Speaking about an electron, it is not a tiny ball, and it does not revolve around an atom nucleus, otherwise it would emit electromagnetic energy (it has to accelerate to change its direction to form an orbit, and any charged particle which is accelerated emits that energy) and would fall into the nucleus. This flaw of the atomic planetary model, introduced by Rutherford, was immediately recognized, but non-physicists continue to wrongly imagine the atom like that. I think this is not good, because it gives the impression that we can know what an atom is, and it has a simple mechanical nature. There is another argument for the impossibility of knowing what an atomic particle is. To observe anything, it is necessary to inject and/or extract some energy from it. But the minimum quantum of energy that one introduces into or extract from an atomic particle changes its state. Therefore, science will never know that an atomic particle is in its natural state. So, I cannot agree with RD that atomic particles are simple, or are figured out through simple ideas. On the contrary, they confirm my aphorism of mistrusting any simple explanation of nature (see section 7.2).

7.7 An interlude at Cambridge

In this section, RD describes his participation in a restricted conference on science and religion with science journalists: “I was the token atheist among the eighteen invited speakers.” (p. 189).

I am not going to comment this section, because in my point of view, from what RD describes of the arguments used by the other participants, either they were not substantial, or they showed that the other people were in fact materialists. In fact, let me state here that I consider many religious people as being materialists: their worldview and their reasoning are based upon the physical world. The fact that a person keeps talking about God does not make him a spiritualist.

8. Chapter 5 – The roots of religion

8.1 *The Darwinian imperative*

This section is devoted to introducing the question of how to justify the existence of religions in evolutionary terms: "Knowing that we are products of Darwinian evolution, we should ask what pressure or pressures exerted by natural selection originally favored the impulse of religion. The question gains urgency from standard Darwinian considerations of economy. Religion is so wasteful, so extravagant and Darwinian selection habitually targets and eliminates waste." (p. 190).

His last phrase reminds me of gothic cathedrals of which I know a couple, among them Chartres, Freiburg, and Strasbourg. When they were built, the entire population of a few thousands of individuals living in their region could fit inside them, and there was quite a bit of space still left. Moreover, there was no practical, utilitarian reason to build them with their impressive height and intricate works of art, from gigantic decorated main doors to sculptures and colored glass windows. It is impossible for a person like RD to understand the deep religious impulse that moved the people to build such wonderful works of art. The impression and the feelings they produced in the people who used them for prayer escape materialist comprehension. As a matter of fact, RD mentions them: "A medieval cathedral could consume a hundred man-centuries in its construction, yet was never used as a dwelling, or for any recognizably useful purpose. Was it some kind of architectural peacock's tail?" (p. 192). This is not entirely correct: while attending a course at Chartres, I remember being told that the cathedral had an inclined floor because outside visitors used to camp in its inside, and this kind of floor permitted cleaning the dejects which were laid on it just by throwing water; gravity would do the rest.

One citation is worth commenting. RD cites Kim Sterenly's account of Australian aborigines and says: "The very same peoples who are so savvy about the natural world and how to survive in it simultaneously clutter their minds with beliefs that are palpably false and for which the word "useless" is a generous understatement. ... Sterenly himself is familiar with aboriginal peoples of Papua New Guinea. They survive under arduous conditions where food is hard to come by, by dint of "a legendary accurate understanding of their biological environment. But they combine this understanding with deep and destructive obsessions about female menstrual pollution and about witchcraft and magic, and by the violence that accompanies those fears." Sterenly challenges us to explain "how we can be simultaneously so smart and so dumb." (pp. 193-4). There are two possibilities here: either those customs are traditions originating in ancient times, which have lost their meaning and were eventually corrupted with time, or the dumb people are those that cannot understand the deep significance that those customs have for that culture. Their "magic" may represent spiritual realities which they are still able to perceive. After all, those aborigines have been surviving for a long time and we, with our scientific wisdom and knowledge of evolution, are irreversibly destroying nature, and cannot guarantee that our descendants will be able to survive.

8.2 Direct advantages of religion

This section begins with a reference to the benefits placebos can make. "It's why homoeopathic remedies appear to work, even though they are so diluted that they have the same amount of active ingredient as the placebo control – zero molecules." (p. 195). Yes, in some homoeopathic drugs, from a materialistic point of view there is nothing physically left of the active ingredient which was diluted. But, as I already wrote in section 5.5, from a spiritual point of view some non-physical qualities of an ingredient may pass enhanced to the diluent during the special dilution process ("potentiation"). Samuel Hahnemann, the introducer of homeopathy, constructed a purely empirical system, using his motto *similia similibus curantur*, "likes are cured by likes": he took some substance, verified how it affected the organism and diluted it in a special way, to cure diseases that produced the same symptoms. RD is putting in doubt the seriousness of thousands of homeopaths. One of their characteristics is that they try to form an inner image of the whole patient, including his temperaments, habits, sleep, etc., that is, they don't just try to cure the symptoms, as classical medicine does. But a headache or a fever is not a cause, it is a consequence. When classical medicine prescribes an analgesic or an antipyretic, it is not treating the patient, it is treating the symptom. A personal anecdote: when I was 7 days at the hospital treating my second heart attack, and underwent two angioplasties, my cardiologist never came to examine me and talk to me (albeit having his office at the hospital) – he always sent his assistants. I told my wife, who is also a medical doctor: "He is not curing me, he is curing my heart." She replied: "It's much worse; he is curing the results of your laboratory analyses."

And now RD comes to the point: "Is religion a placebo that prolongs life by reducing stress?" (p. 195). He thinks it may have this effect, but "Religion is a large phenomenon, and it needs a large theory to explain it." (p. 196). Here (and everywhere else, as far as living beings are concerned...) he looks for Darwinian explanations. So, he is not satisfied either with "religion satisfies our curiosity about the universe and our place in it" and "religion is consoling" (idem). Moreover, "I shall not pursue the neurological idea of a 'god centre' in the brain because I am not concerned here with proximate solutions. That is not to belittle them. ... But my preoccupation in this chapter is with Darwinian *ultimate* explanations. ... The Darwinian still wants to know why people are *vulnerable* to the charms of religion and therefore open to exploitation by priests, politicians and kings." (pp. 196-7).

In the next sections, RD covers some possible "ultimate" Darwinian explanations.

8.3 Group selection

"Group selection is the controversial idea that Darwinian selection chooses among species or other *groups* of individuals. The Cambridge archaeologist Colin Renfrew suggests that Christianity survived by a form of group selection because it fostered the idea of in-group loyalty and in-group brotherly love, and this helped religious groups to survive at the expense of less religious groups." (p. 198).

RD declares that he is not “a supporter of group selection” (p. 198) but “admit that in principle it can happen” (p. 199). Anyhow, I don’t agree with the explanation above because all ancient groups had in-group loyalty and in-group brotherly love; this was not a religious characteristic. This happens even today in primitive tribes, such as Brazilian Indians. Many of these groups disappeared. There was something special about Christianity for it to have spread so much in the Western world and having survived for so long.

8.4 Religion as a by-product of something else

In this section RD turns to his “own view of the Darwinian survival value of religion.” (p. 200). He advances the “by-product” theory: “Perhaps the feature we are interested in (religion in this case) doesn’t have a direct survival value of its own but is a by-product of something else that does.” (pp. 200-1). “Natural selection builds child brains with a tendency to believe whatever their parents and tribal elders tell them. Such trusting obedience is valid for survival. ... On this model we should expect that, in different geographical regions, different arbitrary beliefs, none of which have factual basis, will be handed down, to be believed with the same conviction as useful pieces of traditional wisdom such as the belief that manure is good for the crops.” (pp. 205-6).

Here we see another example of Darwinians’ speculation at work. First of all, they are not able to scientifically prove their theory. Secondly, their materialism cannot distinguish what is a tradition based upon an old direct experience of the spiritual world and what has been introduced out of superstition or is a wrong interpretation of old traditions. At the end of this section, he lists some beliefs by Christians, such as

- “In the time of the ancestors, a man was born to a virgin mother with no biological father being involved.” (p. 207).

This is a typical case in his book: he is correctly criticizing a wrong interpretation of an old scripture, in this case, Mary’s virginity. In Mathew’s and Luke’s Gospels, it is clearly a symbol, for instance for the “immaculate conception”, that is, Mary haven’t consciously participated in the sexual act. In section 6.5 I have already commented on Jesus’ genealogy problem and the strange fact that those two evangelists had so much trouble in enumerating Jesus’ ancestors if he had no physical father. This is one more indication that the virginal conception is a symbol.

- “The same fatherless man called out to a friend called Lazarus, who had been dead long enough to stink, and Lazarus promptly came back to life.”

The wrongly called “Lazarus resurrection” appears only in John’s Gospel, exactly in chapter 11, its middle of a total of 21 chapters – certainly, no coincidence. Let us examine some details: “3. Therefore his [Lazarus’] sisters sent unto him, saying, behold, he whom thou lovest is sick. 4. When Jesus heard that, he said, this sickness is not unto death, but for the glory of God ... 6. When he had heard therefore that he was sick, he abode two days still in the same place where he was. 11. ... and after that he saith unto them,

our friend Lazarus sleepeth; but I go, that I may awake him out of sleep. 15. Then said Jesus unto them plainly, Lazarus is dead. 16. Then said Thomas, which is called Didymus, unto his fellow disciples, let us also go, that we may die with him. 17 Then when Jesus came, he found that he had lain in the grave four days already. 26. [Jesus spoke to Martha] And whosoever liveth and believeth in me shall never die ... 38. Jesus therefore again groaning in himself cometh to the grave. It was a cave, and a stone lay upon it. 39. Jesus said, Take ye away the stone. Martha, the sister of him that was dead, saith unto him, Lord, by this time he stinketh; for he hath been dead four days. 43. And when he thus had spoken, he cried with a loud voice, Lazarus come forth. 44. An he that was dead came forth ...”

One sees that many statements show that there is some deep mystery behind this description, such as the Christ saying initially that it as a sleep and later referring to death; Thomas saying that the disciples should also die. Rudolf Steiner gave an interesting interpretation to this description ([STE a], see the [on-line text](#)): Lazarus was in a lethargic, almost death state, and went through an old initiation rite, which I briefly described in section 6.4. In this case, the Christ himself was the hierophant. Lazarus was the writer of John’s Gospel and the Book of Revelation, which explains why his writing differs so much from the other Gospels – he was the most advanced of the disciples in terms of being able to observe the spiritual world.

Both RD and various Christian religions cannot understand these profound facts. So RD is again correct in criticizing the common interpretations, but he is not correct in saying that what was written in the Gospels is nonsense.

It would be interesting to comment each of the 8 points cited by RD, but I will only do it for the next one.

- The fatherless man himself came alive after being dead and buried three days.

Continuing with John’s Gospel, in chapter 20 one reads: “14. And when she [Mary Magdalene] had thus said, she turned back, and saw Jesus standing, and knew not that it was Jesus. 15. Jesus saith unto her, Woman, why weepest thou? Whom seekest thou? She, supposing him to be the gardener, ...”

If the “resurrection” had been purely physical, why would Mary Magdalene not have recognized the Christ Jesus? Here again we see that this is a symbolic description. These symbols have been explained, can be understood, and should not be believed anymore in blind faith. RD is absolutely correct when he finishes this section with: “What would an objective anthropologist, coming fresh to this set of beliefs ... make of them?” (p. 208). Yes, they make no sense from a materialistic point of view. Unfortunately, in almost all Christian religious interpretations they don’t make sense either. But this does not mean that they are not symbols for real deep events, which were crucial for the development of humanity.

8.5 Psychologically primed for religion

As I mentioned in section 5.7, there is an evolutionary explanation for everything. In this section, RD deals with evolutionary psychology. "Evolutionary psychologists suggest that, just as the eye is an evolved organ for seeing, and the wing an evolved organ for flying, so the brain is a collection of organs (or "modules") for dealing with a set of specialist data-processing needs. There is a module for dealing with kinship, a module for dealing with reciprocal exchanges, a module for dealing with empathy, and so on. Religion can be seen as a by-product of the misfiring of several of these modules, for example the modules for forming theories of other minds, for forming coalitions, and for discriminating in favour of in-group member and against strangers." (p. 209).

In section 4.1 I have already argued against the computational or data processing model of the brain: it is absolutely unjustified, a mere scientific speculation. Furthermore, it is well known that there are no separate organs or modules in the brain – different parts act together, in an intricate way. And nobody knows how they function separately or together. Furthermore, why would a "misfiring" result only in religious views of the world? Why doesn't it largely produce other behavior "aberrations"? There are religious people who are artists, politicians, teachers, doctors and even scientists, and they look absolutely normal, with clear ideas in their professional activities.

"A dualist acknowledges a fundamental distinction between matter and mind. A monist, by contrast, believes that mind is a manifestation of matter – material in a brain or perhaps a computer – and cannot exist apart from matter." (p. 209).

RD refers to monism of matter. There is another kind of possible monism: matter is a condensation of something non-physical. That's why we recognize concepts when we see anything – behind each physical object there is a non-physical concept, its essence. This is clear in a house, for instance: it was an idea in the architect's non-physical mind before it was constructed.

From his phrase, it seems the RD assigns minds to computers. This is an elementary error: computers are purely syntactical machines, condemned to follow the rules established by its circuitries and by the software it interprets. On the other hand, our mind has semantics, with it we *understand* things. Computers understand absolutely nothing. For more details on this aspect, see the chapter "Can computers think?" of John Searle's book [SEA]. Let it be clear that I don't agree with Searle's principle that the mind is physical.

As I have already expounded in section 5.4, for those who recognize that they may have free will, our mind cannot be physical.

"I am a human animal and therefore evolved as an instinctive dualist. ... a tendency to dualism is built into the brain and, according to [psychologist Paul] Bloom provides a natural predisposition to embrace religious ideas." (p. 210).

No, Sir, humans are not animals. Humans are humans. We have some structures and behavior like animals, but we are essentially different from them. If one likes to call humans "rational animals", why are not animals called "movable plants"? There is no animal that has our erect position (and our double S formed by the vertebral column), no animal produces creative art or science, has religion, speaks, may exercise unselfish love and thinks. RD will jump if he reads the last statement, but that's what is necessary to conclude if one carefully observes animals – they don't have our thinking and creative mind; who is changing the world (for the most part, for the worse) with novelties, humans, or animals? Animals are forever condemned to follow their inherited instincts and the conditioning provided by the environment. We have something else. If we behaved like animals, we would not be unpredictable as we are – and economists would be able to make the economy function without crises.

In this large section RD also speaks about other explanations of religions being by-products, for instance "... our tendency, which presumably has genetic advantages, to fall in love" (p. 214). "From a Darwinian point of view, it is, no doubt, important to choose a good partner, for all sorts of reasons. But, once having made a choice – even a poor one – and conceived a child, it is more important to stick with that one choice through thick and thin, at least until the child is weaned." (p. 215). These speculations do not consider the ancient help of grandparents, modern styles of life, etc. Most important of all, it does not explain why some (rare nowadays) couples stay together their whole life and love each other "forever". It does not consider that human love transcends sexual relations. It does not consider that there may exist unselfish love, something that does not make sense from a material way, as I mentioned in section 5.6: matter is selfish by nature. Everyone seeks its survival and eventually the survival of its species. I am aware of Darwin's speculation that altruism has developed because unselfish people were more accepted by their group. But I think it will never be possible to show how it works in the body. To begin with, there is a fundamental question regarding altruistic love: it has to be an action done in complete freedom – and, as we have already seen 5.4, free will makes no sense in a materialistic worldview.

"Many religions, for example, teach the objectively implausible but subjectively appealing doctrine that our personalities survive our bodily death. The idea of immortality itself survives and spreads because it caters to wishful thinking." (p. 221).

I have already commented on the question of reincarnation in section 5.1. It is "objectively implausible" only when viewed from the trough of materialism. If against the latter one adopts the hypothesis that human life has a sense, this sense must be the development of each individual personality. One commits many errors during a life, so it is logically plausible that each personality has the chance of compensating the bad actions done in a life by reincarnating in a subsequent life – a concept that widely existed in very ancient mankind. This concept has been eliminated by Christian churches, opening the way to materialism which, as I already said, was a necessity for humankind but has to be overcome now. I cannot understand why a true spiritualist may have difficulties accepting the hypothesis of reincarnation.

8.6 Tread softly, because you tread on my memes

Memes were coined by RD as the cultural equivalent to genes. I call them "second-degree speculations" because they have no physical existence. The first-degree speculation is how a body is formed from its genes. There is no complete theory on this: to begin with, one gene may produce different proteins, which are the real building blocks of tissues, organs and organisms. There is no precise knowledge of why a protein is produced by one gene instead of another one. Furthermore, it is not possible to foresee when a gene will start producing a protein.

RD lists 8 examples of religion memes. I will comment just one: "There are some weird things (such as the Trinity, transubstantiation, incarnation) that we are not meant to understand. Don't even try to understand one of these, for the attempt might destroy it." (p. 232). Again, he is right in terms of organized religions: as I wrote in chapter 3, they are not directed to understanding, but to feelings. But he is not right in stating that these concepts cannot be explained conceptually and understood. They have been explained.

He justifies the use of memes because "... the strong possibility remains that the detailed form of each religion has been largely shaped by unconscious evolution. Not by genetic natural selection, which is too slow to account for the rapid evolution and divergence of religions. ... memetic natural selection of some kind seems to me to offer a plausible account of the detailed evolution of particular religions. In the early stages of a religion's evolution, before it becomes organized, simple memes survive by virtue of their universal appeal to human psychology." (p. 235).

Certainly, some religions were invented ("intelligently designed", in RD's pun – pp. 201, 234). But the ancient ones were, in my hypothesis, the result of direct perception of the spiritual world, and transmitted through images and not concepts. With time, their real significance was lost, and traditions became corrupted – such as the Hindu idea that humans may incarnate in animals.

Why are religions so popular? My explanation for our present times is that each individual, having non-physical members, has an intuitive longing for spiritual matters. What most people find are organized religions, which have all the problems cited by RD, and are not suitable for modern humans. In spiritual matters they should look for inner and outer observation, understanding and coherence, as well as making a conceptual bridge to our ancestors, that is, understanding them. Another very important cause is the fact that science cannot satisfy the search for knowledge and is inhumane. For instance, it does not deal with qualities, but only with quantities – nevertheless, everyone is used to experience the existence of qualities in the world. Furthermore, science has nothing to do with moral attitudes. The present methodology used by science is inhumane due to various factors. I will cite here only one: reproducibility. Humans are not fully reproducible, because they incorporate their whole experience in life. For instance, the reader will not be exactly the same after finishing this paper. Furthermore, we experience inner activities in ourselves, such as thinking, feeling and

willing, which we are conscious of, but are occult to other people, as I expounded in chapter 5.

8.7 Cargo cults

In this section RD describes certain South Pacific cults originated when Europeans "colonized" some of the islands. Every object and custom they brought were thought by native people to be magic. Then he says "... they do provide a fascinating contemporary model for the way religions spring up from almost nothing. In particular, they suggest four lessons about the origin of religions generally ... First is the amazing speed with which a cult can spring up. Second is the speed with the originating process covers its tracks. ... The third lesson springs from the independent emergence of similar cults on different islands. ... Fourth, the cargo cults are similar, not just to each other but to older religions. ... This is all I want to say about the roots of religion itself, apart from a brief reprise in Chapter 10 ..." (p. 239).

There is a big mistake here: comparing present humans with those of ancient times. Humans have changed in their inner, non-physical constitution. It is understandable that RD and other materialists make such an error, because from a Darwinian, materialistic point of view, humans have changed very little in the last thousands of years. Take, for instance, our notion of freedom and human rights. Slavery was a common practice in ancient times. Plato, an extreme humanist, had no objections to it for the organization of his Republic. I have not found in Goethe, another extreme humanist, anything against slavery – maybe he had not seen any slaves, as did Darwin when he visited Brazil on board of the Beagle, which enraged him. RD may well say that we respect individual freedom because our customs have changed. But another interpretation is that now we can sense other persons' higher selves and recognize that they are of the same essence as ours. So, we feel it unjust to impose something on others that we don't like done to ourselves. Racial discrimination was due to a lack of sensitivity to what is essential in humans – not their physical appearance, but their artistic, intellectual and social abilities (which are not physical at their root!). Now that we have developed this sensitivity, we consider this and other discriminations abhorrent. In ancient times, there was an innate respect for old people. This respect was lost and reappeared in recent times due to the development of the same sensitivity. In Brazil, in many cities, public transportation (buses, subways) is free to men over 65 and women over 60; all over the country, old people pay half the standard price for movies, shows, theater plays and concerts. (By the way, a personal experience: you really feel old when people start standing up in public transportations to give you their seat – which is mandatory in Brazil for a couple of front seats.)

What happened with the native tribes described by RD is that they had no perception for the spiritual world, as happened with humanity many thousands of years ago. On the other hand, they did not develop perception and intellect to distinguish what corresponds to reality and what is fantasy or superstition – for this, humans need culture. Thus, their new superstitions indicate nothing in terms of how old religions appeared. By the way, "religion" comes from the Latin *religare*, to reconnect. For very ancient humanity, the spiritual world (including what is inside each living being) was directly

perceived, there was a natural connection to it; gradually, this perception was lost and some actions, such as cults and initiation practices and rites, were necessary to establish a reconnection to those worlds. Nowadays, the correct path is using our thinking, through appropriate active meditation practices. But first one has to study what was transmitted by great initiates, and absorb it intellectually, through understanding.

9. Chapter 6 – The roots of morality: why are we good?

In the introduction to this chapter, RD calls the attention to the fact that he receives many letters commenting on his books, “most of them enthusiastically friendly, some of them helpfully critical, a few nasty of even vicious. And the nastiest of all, I am sorry to report, are almost invariably motivated by religion. Such unchristian abuse is commonly experienced by those who are perceived as enemies of Christianity.” (p. 242).

RD is absolutely right. A lack of respect to a person is unchristian. This just shows that much of what is called Christianity and practiced as such by many people has nothing to do with the essence of it. Furthermore, it shows that many religions have degenerated and lost completely their original impulses. Moreover, humans have changed, and religions should have also changed – much more than some of them did. This means that what is said and made in the name of religion should not be taken as a characteristic of what religions should be. I’ll go into more detail while commenting the next sections.

9.1 Does our moral sense have a Darwinian origin?

“Natural selection can easily explain hunger, fear and sexual lust, all of which straightforwardly contribute to our survival or the preservation of our genes. But what about the wrenching compassion we feel when we see an orphaned child weeping, an old widow in despair from loneliness, or an animal whimpering in pain? ... Isn’t goodness incompatible with the theory of the “selfish gene”? No. ... The selfish gene is the correct emphasis, for it makes the contrast with the selfish organism, say, or selfish species. ... The logic of Darwinism concludes that the unit in the hierarchy of life which survives and passes through the filter of natural selection will tend to be selfish. ... The whole idea of the selfish gene, with the stress properly applied to the last word, is that the unit of natural selection (i.e. the unit of self-interest) is not the selfish organism, nor the selfish group or selfish species or selfish ecosystem, but the selfish gene. ... Unlike the gene (and, arguably, the meme), the organism, the group and the species are not the right kind of entity to serve as a unit in this sense, because they do not make exact copies of themselves, and do not compete in a pool of such self-replicating entities. That is precisely what genes do, and that is the – essentially logical – justification for singling the gene out as a unit of “selfishness” in the special Darwinian sense of selfish. The most obvious way in which genes ensure their own “selfish” survival relative to other genes is by programming individual organisms to be selfish. ... There are circumstances – not particularly rare – in which genes ensure their own selfish survival by influencing organisms to behave altruistically. ... In general, ... animals tend to care for, defend, share resources with, warn of danger, or otherwise show altruism towards close kin

because of the statistical likelihood that kin will share copies of the same genes." (pp. 246-7).

Here RD is trying to say that the origin of all our characteristics, including compassion and altruism, is our genes. Moreover, he explicitly deals with opposites: altruism and selfishness. For him, the former is a consequence of the latter.

RD's theory is not a scientific fact, it is just intellectual speculation. To be scientific, his theory should detect which genes are responsible to compassion, altruism, and also egotistical attitudes, where in the brain reside these attitudes and how they are generated by it, how those genes generate those areas in the brain, how those areas evolved, and so on.

I have also an objection to his use of the word "altruism". American Heritage Dictionary 1994 electronic edition brings for it "Unselfish concern for the welfare of others; selflessness". For "unselfish", it gives "Generous or altruistic"; for selflessness, "Having, exhibiting, or motivated by no concern for oneself; unselfish." We clearly see the circularity. By the way, the capacity we have of overcoming such circularities show that we use a direct connection to the – non-physical – concepts, and not to their definitions; see also my bilingual paper "[Concepts and the brain](#)", where I show that concepts cannot reside in the brain. To me, a real altruistic action should be performed in complete consciousness and freedom. If there is any individual inner necessity or advantage ("concern for oneself") leading to an action, then it is not altruistic, it is selfish. As we have seen in section 5.4, free will makes no sense in materialistic and thus Darwinian senses. So, the altruism RD is speaking about is not a true altruism.

Altruism in my sense cannot be a result of selfishness. As already mentioned, Darwin had already advanced the theory that altruistic persons were more accepted in their groups, so they had better chance of surviving and leaving offspring. In this case, why we are not all altruistic? Why did people not begin to forge altruism to be more accepted?

"[Summarizing, there are] four good Darwinian reasons for individuals to be altruistic, generous or 'moral' towards each other. First, there is the special case of genetic kinship. Second, there is reciprocation: the repayment of favours given, and the giving of favours in 'anticipation' of payback. Following on from this three, third, the Darwinian benefit of acquiring a reputation for generosity and kindness. And fourth, ..., there is the particular additional benefit of conspicuous generosity as a way of buying unfakably authentic advertising." (p. 251).

In the four cases, we see that the ground for being altruistic is selfishness; so, in all of them there is no real altruism.

"Sexual lust is the driving force behind a large proportion of human ambition and struggle, and much of it constitutes a misfiring. There is no reason why the same should not be true of the lust to be generous and compassionate, if this is the misfired consequence of ancestral village life. The best way for natural selection to build in both kinds of lust in ancestral times was to install

rules of thumb in the brain. Those rules still influence us today, even where circumstances make them inappropriate to their original functions." (p. 254).

Again, for the n^{th} time, there is no scientific knowledge to say that the brain has those "rules of thumb" and how they work. On the other hand, sexual lust is selfish, the contrary to altruism. RD is here comparing incomparable things. Furthermore, altruistic love has nothing to do with sexual lust.

Let me also call the attention to the fact that brains do not fossilize, so we can have no idea how their areas involved in human attitudes evolved in ancient times. Even if they fossilized, we would not be able to examine them at work.

If sexual lust is the main reason for a couple to stay together, there would be no old couples living together. Also, they have passed the time of leaving offspring, so their staying together has no evolutionary consequences. Obviously, evolutionists will come up with some abstract speculation on how evolution favored genes that (mysteriously) led couples to stay together for their whole lives.

9.2 A case study in the roots of morality

This section describes statistical experiments done by biologist Marc Hauser on moral dilemmas, such as choosing an action to divert the course of a train which will kill 5 people, killing just one instead, how to decide which person should receive an organ transplant, etc.

"Of particular interest for this book, Hauser also wondered whether religious people differ from atheists in their moral intuitions. Surely, if we get our morality from religion, they should differ. But it seems that they don't. ... This seems compatible with the view, which I and many others hold, that we do not need God in order to be good – or evil." (p. 258).

Modern humans don't want to receive orders. They like to participate in decisions and know why the orders they receive are just. Religions (eventually) impose morals; this takes humans back to an old past, when people did not have the consciousness and self-consciousness we have nowadays and have to be guided by commandments and rules. Moral should now arise from individual intuitions (see [STE]). Again, RD is basing his argument on something that is not adequate nowadays, but his arguments are interesting and important.

9.3 If there is no God, why be good?

RD cites Einstein: "If people are good only because they fear punishment, and hope for reward, then we are a sorry lot indeed." (p. 259). RD: "I suspect that quite a lot of religious people do think religion is what motivates them to be good, especially if they belong to one of those faiths that systematically exploits personal guilt." (idem).

"Some philosophers, notably Kant, have tried to derive absolute morals from non-religious sources. Though a religious man himself, as was almost inevitable in his time, Kant tried to base a morality on duty for duty's sake, rather than for God's. His famous categorical imperative enjoins us to "act only on that maxim whereby thou canst at the same time will that it should become a universal law." (p. 264-5). There is a problem with Kant's emphasis on duty: it eliminates individual freedom. The person who acts out of a sense of duty is not free. As Rudolf Steiner has put it, "Kant's principle of morality – act so that the basis of your action may be valid for all men – is the exact opposite of ours. His principle means death to all individual impulses of action. For me, the standard can never be the way *all* men would act, but rather what, for me, is to be done in each individual case". [STE, p. 185, see the [on-line text](#)].

RD finishes this section with "The next chapter will demonstrate that, in any case, people who claim to derive their morals from scripture do not really do so in practice." (p. 267).

10. Chapter 7 – The "Good" book and the changing moral *Zeitgeist*

"There are two ways in which scripture might be a source of morals or rules for living. One is by direct instruction, for example through the Ten Commandments ... The other is by example: God, or some other biblical character, might serve as – to use the contemporary jargon – a role model. Both scriptural routes, if followed religiously (the adverb is used in its metaphoric sense but with an eye to its origin), encourage a system of morals which any civilized modern person, whether religious or not, would find – I can put it no more gently – obnoxious." (p. 269).

Here RD is again mixing what was correct to a far past to what is correct today. There may be overlapping conditions, but they have to be studied before applying. For instance, in the Old Testament, prophets were transmitters of the voice of their God. The Christ introduces a novelty: he used the expression "I say unto you" (e.g. [Matthew 5:22, 32, 39, etc.]) By the way, Christ did not want to introduce a new religion, he wanted to reform old Judaism – for instance, replacing the Biblical revenge statement "eye for an eye" [Lev. 24:20] by "turn the other cheek" [Mat 5:38-42], implying pardon and altruistic love. The Gospels tell of his life as an example, a "role model" as RD has put it. But in a much deeper sense than RD can understand because much of what Christ said referred to non-physical conditions.

10.1 The Old Testament

RD begins by citing Noah's story recognizing that it was "Known from the older mythologies of several cultures." (p. 269). Maybe this story is a symbol for a deep reality, that's why similar ones appear in several cultures. Then he says: "God took a dim view of humans, so he (with the exception of one family) drowned the lot of them including children and also, for good measure, the rest of the (presumably blameless) animals as well." (idem). The images of Noah's story are very nice (and adequate) for children. I would not expect RD to take those symbols at face value – how about the animals living together in the Arch? How would polar bears bear the hot weather, or

hummingbirds the cold? If the pairs of animals in the Arch are not just symbols, why the killing of all other animals? Maybe the image represents a glacial period in which many families died.

"In any case, despite the good intentions of the sophisticated theologian [referring to a certain one], a frighteningly large number of people still do take their scriptures, including the story of Noah, literally. According to Gallup, they include approximately 50% of the US electorate." (ibidem). RD is absolutely right: it is appalling to realize that so many people just do not understand the scriptures and use them literally as arguments to justify their ideas and actions.

In this section RD tells two biblical stories, one about Lot and the destruction of Sodom (Genesis 19), and of a Levite who spends the night in the "house of a hospitable old man" (Judges 19). In both cases women are offered to be raped instead of the hosts handing out their visitors to some local men. In the second case the raping indeed takes place. If read literally, the stories are really horrible. But they are clearly symbols, because in the first the visitors are two angels and Lot's wife is transformed into salt, and in the second the woman, a concubine of the visitor, that is raped and dies, is "divided [by her master], together with her bones, into twelve pieces, [which were] sent into all the coasts of Israel." (p. 273). Twelve is a mystical number, which is also an indication that this story is symbolic.

Then RD tells the story of Abraham's wife who was offered to the Pharaoh as the former's sister (Gen 12) and later to Abimelech (Gen 20), and Isaac's sacrifice. "Once again, modern theologians will protest that the story of Abraham sacrificing Isaac should not be taken as literal fact. And, once again, the appropriate response is twofold. First, many many people, even to this day, do take the whole of their scripture to be literal fact, and they have a great deal of political power over the rest of us, especially in the United States and in the Islamic world. Second, if not as literal fact, how should we take the story? As an allegory? Then an allegory for what? Surely nothing praiseworthy. As a moral lesson? But what kind of morals could one derive from this appalling story? Remember, all I am trying to establish for the moment is that we do not, as a matter of fact, derive our morals from scripture. Or, if we do, we pick and choose among the scripture for the nice bits and reject the nasty." (p. 275).

Yes, as most religious people, RD cannot understand biblical images, simply because, as all ancient myths, from Gilgamesh to fairy tales and Parzifal, they are allegories for spiritual realities, and not for physical ones. For instance, as my wife demonstrated in her book [SETa], the medieval Parzifal legend shows through cavalry images the path of inner development each modern human being should follow. Has anyone thought that all those stories could have very well been dreamt by himself? Dreams are images, frequently to non-physical experiences we have in our sleep. During awakening, sometimes we remember those experiences, but interpret them through images taken from memories of our sense experience – that's why they don't follow the logics of the physical world. As a matter of fact, I will state here that, with its present methodology, science will never understand what sleep and dreams are, because they are not simple physical realities.

It's curious that RD criticizes some religious people for taking scripture images literally, but when he criticizes religions based upon those scriptures, he himself takes them literally.

"God's monumental rage whenever his chosen people flirted with a rival god resembles nothing so much as sexual jealousy of the worst kind, and again it should strike a modern moralist as far from good role-model material." (p. 276). Yes, Yahweh was a jealous and vindictive god. (Recall what I wrote about monotheism, in my chapter 3.) RD and most religious people just cannot understand that there was a deep spiritual mystery behind the purity of race among the Israelites – which is hinted at in Jesus' genealogies mentioned in section 6.5. The tragic situation is that some Jews keep the same ancient traditions, when there is no more reason to have these attitudes.

To emphasize his point, he tells the story (from Numbers 15) of a man who was caught collecting wood in the wilderness on the Sabbath. "And the lord said unto Moses, the man shall surely be put to death: all the congregation should stone him with stones without the camp." (p. 281). And that's what they did. "What makes my jaw drop is that people today should base their lives on such an appalling role model as Yahweh – and, even worse, that they should bossily try to force the same evil monster (whether fact or fiction) on the rest of us." (pp. 281-2). He is absolutely right. "My purpose has been to demonstrate that we (and that includes most religions people) as a matter of fact don't get our morals from scripture. If we did, we would strictly observe the Sabbath and think it just and proper to execute anybody who chooses not to." (p. 283). I think RD made a good point at showing that humans have changed, and what was proper in ancient times should not be strictly followed nowadays. But I have another point: if anyone derives his moral from whatever scripture, he does not act in freedom.

10.2 Is the New Testament any better?

RD begins by honoring the Christ Jesus: "Well, there's no denying that, from a moral point of view, Jesus is a huge improvement over the cruel ogre of the Old Testament." (p. 283). But then he also finds something to say against his morality: "Jesus' family values, it has to be admitted, were not such as one wishes to focus on. He was short, to the point of brusqueness, with his own mother, and he encouraged his disciples to abandon their families to follow him. "If any man come to me and hate not his father and mother, and wife and children, and brethren, and sisters, yea and his own life also, he cannot be my disciple." (p. 284). RD cannot understand the deep symbol and message behind the Christ Jesus not recognizing his mother at the Canaan wedding (John 2:3) and his citation: he was bringing a new era to mankind, where blood connections, so important in former times all over the Earth, and well represented in the Old Testament, would have no more meaning. Human beings should love each other without being forced to such an attitude because of their common blood. Family love is not altruistic love. And altruistic love is precisely what humanity must develop.

RD digresses around the Original Sin: "... there are other teachings in the New Testament that no good person should support. I refer especially to the

central doctrine of Christianity: that of "atonement" for "original sin". This teaching, which lay at the heart of New Testament theology, is almost as morally obnoxious as the story of Abraham setting out to barbecue Isaac ..." (p. 284). "Augustine, by the way, who rightly regarded himself as something of a personal authority on sin, was responsible for coining the phrase "original sin". Before him, it was known as "ancestral sin." (p. 285).

I must thank RD for teaching me that the phrase "original sin" was introduced by Augustine. I had been looking for its source for many years, and nobody could tell me where it originated from. Interesting enough, in German it is "*Erbsünde*", "inherited sin", which is close to the "ancestral sin" mentioned by him. But this expression is not in the Bible; I presume it was introduced by the Catholic Church.

Well, here I must teach RD something. In the wonderful Genesis image of Paradise, Adam and Eve had no self-consciousness. Only when they "ate" the "fruit" of the forbidden "tree of the knowledge of good and evil" (Gen 2:17) they became self-conscious, which is represented by the image "Then the eyes of both were opened and they recognized that they were naked." (Gen 3:7). These grandiose images represent the fact that in their beginnings, human beings were in touch with divine beings, had no self-consciousness, and could not distinguish good from evil and choose between them, that is, they were not free. In this case, they *committed no sin!* An animal is not self-conscious, so it never commits a sin, is never responsible for its acts. In fact, human beings were thrown out of the Garden of Eden by the action of divine beings (Gen 3:24), which is a symbol for humanity leaving the spiritual world and falling into matter. The word "sin" notwithstanding, the expression in German could mean that the "fall" from Paradise, from the spiritual world into matter, has been physically inherited since then. Only in the material world human beings can have doubts, make errors, and choose between evil and good. Without evil and good, there would be no possibility of choosing, that is, there would have been no individual freedom. Through our fall into matter, that is, our having been thrown out of Paradise, we acquired the possibility of being free. In this sense, evil was a necessity: without it, there would be no good and no possibility of choosing between both. That's why the Manicheans had a saying like "Love evil well". The Cathars followed the Manicheans; Augustine was one of the former but could not attain the highest initiation degrees, so he left the sect and persecuted it.

If Augustine was the originator of the phrase "original sin", how come RD calls it a "teaching in the New Testament" that seems repulsive to him? Certainly, business made with the redemption of one's sins is abhorrent. On the other hand, if one admits as a hypothesis the existence of reincarnation (see section 5.1), then each one of us is born with the sins committed in previous physical lives. The new life is an opportunity to redeem the evil one has done to other people and become free of the previous "sins". Notice that this is a completely different interpretation than being born with a sin committed by ancestors. Everyone is responsible for his own acts and suffers its consequences. Accordingly, the personal God who punishes and rewards is one's higher self, which is the highest non-physical constituent humans have (and which animals and plants don't have).

"But now, the sadomasochism. God incarnated himself as a man, Jesus, in order that he should be tortured and executed in atonement for the hereditary sin of Adam. Ever since Paul expounded this repellent doctrine, Jesus has been worshipped as the redeemer of all our sins. Not just the past sin of Adam: future sins as well, whether future people decided to commit them or not!" (p. 286).

As I said, human beings were not responsible for having fallen into matter. Without some help from "above", they would never be able to return to the spiritual world. One of the divine beings had to fall also and go through the sufferings we have from being connected to matter. Christ is the redeemer in the sense that after him it is possible to return to the spiritual world during one's life. His life was a demonstration of what can be done, and how matter may be overcome, represented by his resurrection (obviously, not of his physical body, see 8.4). His death had a deep significance to mankind and was a necessity – it is clear in the Gospels that he was aware that he would suffer treason and could have escaped if he wished (John 18:4). Furthermore, nobody could distinguish him from his disciples, that's why Judas had to point to him (Mat 26:48, Marc 14:44, Luke 22:47). He had to undergo death, and that's why he sacrificed himself ("God's lamb"). One can sympathize with RD's astonishment regarding the whole Christ event: albeit his life and death having been physical, their significance is not physical. That's why it does not make sense from a material perspective: "So, in order to impress himself, Jesus had himself tortured and executed, in vicarious punishment for a *symbolic* sin committed by a [if Adam is taken as a symbol] non-existent individual? As I said, barking mad, as well as viciously unpleasant." (p. 287). Unfortunately, most Christians also do not understand what really happened at that mankind's turning point.

10.3 Love thy neighbor

In this section RD calls the attention to the fact that each religion was always directed to those that embraced it, and who were thus considered friends, while people of other religions were not friends or were enemies. Yes, this is true until original Christianity appeared. Unfortunately, the churches representing it did not practice it at all. Certainly, the Inquisition and the destruction of the heretic sects (Manicheans, Cathars, Bogomils, who, by the way, tried to practice a pure, esoteric Christianity) as well as the Crusades cannot be called Christian actions.

This section is worth reading carefully. It deals with religious intolerance in various denominations, and I fully agree with it. It even describes an experiment showing that children are raised to be intolerant. I will mention just one part: "I do not deny that humanity's powerful tendencies towards in-group loyalties and out-group hostilities would exist even in the absence of religion. Fans of rival football teams are an example of the phenomenon writ small. ... But religion amplifies and exacerbates the damage in at least three ways:

- Labeling of Children. Children are described as 'Catholic children' or 'Protestant children' etc. from an early age ...

- Segregated schools. Children are educated, again often from a very early age, with members of a religious group and separately from children whose families adhere to other religions. ...
- Taboos against 'marrying out' ..." (pp. 295-6)

Religion intolerance exists because religions don't understand each other. By the way, I think they don't understand themselves either. This is why so much importance is given to external aspects, to me a demonstration of materialism and lack of a true spiritual view of the world. For instance, being in touch with the spirit should be an act of introspection. It should have nothing to do with the building where one is – as long as it is a calm place. Another example is the preoccupation with special garments. The individual spirit has nothing to do with material objects.

10.4 The moral Zeitgeist

This section begins by showing how moral standards have changed with time, and how fast it has been changing in the last decades.

"Where, then, have these concerted and steady changes in social consciousness come from? The onus is not on me to answer. For my purposes it is sufficient that they certainly have not come from religion. If forced to advance a theory, I would approach it along the following lines. We need to explain why the changing moral *Zeitgeist* [spirit of the time] is so widely synchronized across large numbers of people; and we need to explain its relatively consistent direction." (p. 306).

Fortunately, RD does not embark here in evolutionary considerations (by the way, this theme has been left far behind in the book). I will advance my non-materialistic interpretation. The spirit in everyone, his/her higher "I" (or higher self) – not to be confounded with the lower "I", which encompasses one's physical constitution, temperament, memories, desires, instincts, objectives and ways of feeling and thinking –, is manifesting itself more and more. (By the way, I find it wonderful that "I" is written in English with a capital letter, pictorially representing the erect human being, precisely a consequence of the individual higher "I" which animals don't have.) That's why we cherish freedom so much, that's why we no longer pay attention to external characteristics such as color of skin or shape of the eyes, that's why we respect and favor much more old people than some tens of years ago, that's why we don't spank children anymore. And that's why we have recently developed ecological consciousness. For instance, I doubt that it is possible to prove that whales are necessary and should be preserved, because they are at the end of the food chain; nevertheless, we feel that their disappearance, Japan notwithstanding, is a terrible loss to the world, as any other animal species, including those that have no immediate importance to us. All this is due to a transformation in our spirit, and not in our body or in culture; as RD has well noticed, these changes are synchronized, they show up at the same time all over the world and their direction seem to be the same. As humans become freer, they free themselves from traditions and religious influences. But there is a tremendous danger that this freedom leads to anarchy and destruction. This is the hard way to acquiring consciousness,

self-consciousness, and responsibility. Our potentials are rapidly increasing, as well as our possibility of inflicting destruction and misery.

10.5 What about Hitler and Stalin? Weren't they atheists?

"What matters is not whether Hitler and Stalin were atheists, but whether atheism systematically influences people to do bad things. There is not the smallest evidence that it does." (p. 309).

As I did before, let's read "materialist" for "atheist". For a consequent materialist, "good" and "evil" make no sense. Matter is neither good nor bad; it simply *is*. No moral can come out of it. So, to me, RD and other materialists are not coherent with their vision of the world when they talk about "good" and "bad" things. But this is not their only incoherence: Fortunately, they cherish freedom, they appreciate good deeds and despise bad ones, speak about moral, etc. Maybe one day they will realize that only from a spiritual worldview they may become coherent, without sacrificing their objectiveness and clear thinking. They have a tremendous advantage compared to religious people: they have gotten rid of religious influences and are free to recognize that there are non-physical elements in the world and in the human being, conferring on the latter the possibility of distinguishing between good and bad, and being moral.

An interesting question is this: are there spiritualist worldviews that lead people to behave well, that is, doing good things to other people? Yes, there are. A worldview which recognizes that humans live to perfect themselves by developing unselfish love and recognize that humans can be free, should never lead to bad or immoral actions and actions that interfere with other people's freedom; I will enter into more details about this in the next chapter.

11. Chapter 8 – What's wrong with religion? Why be so hostile?

In this chapter RD expounds why he is "so hostile" (p. 318) to religion. A point that deserves to be noticed is his position "I might retort that such hostility as I or other atheists occasionally voice towards religion is limited to words. I am not going to bomb anybody, behead them, stone them, burn them at the stake, crucify them, or fly planes in their skyscrapers, just because of a theological disagreement." (idem). He then says he is sometimes accused of atheist fundamentalism and says: "I need to dispose of this accusation of fundamentalism, for it is distressingly common."

I have some comments before going into the details of this chapter. First of all, it seems to me that religious people that interfere with the freedom of others are in fact materialists. They just do not understand that the highest expression of a person's spirit is her freedom. Unless for pathological or anti-social behaviors, interfering with another person's freedom (as it happens in the aggressive actions he mentioned) is showing a lack of respect for her spiritual side – or just not recognizing that the latter exists. Furthermore, fundamentalism means not being open to any other worldview, that is, being prejudiced against other views. But this is exactly what RD is: as we have seen in section 5 above, he wrote "I decry supernaturalism in all its forms", that is, he is not open to know and investigate spiritualistic views of the world.

This is understandable, because he seems to know only organized religions and ignore that there are views that I called "scientific spirituality" in my paper '[Science, religion and spirituality](#)'. These views are based upon understanding, and not believing.

11.1 Fundamentalism and the subversion of science

He begins this section by stating that religions people believe in holy books that are taken as axioms, as truths. On the other hand, "... what I, as a scientist, believe (for example, evolution) I believe not because of reading a holy book but because I have studied the evidence. ... When a science book is wrong, somebody eventually discovers the mistake, and it is corrected in subsequent books. That conspicuously doesn't happen with holy books." (p. 319).

First of all, there is no complete scientific knowledge of anything, because we don't know what matter is (we don't even know what an electron is – as I have already advanced in section 7.6, certainly it is not a tiny ball and it does not revolve around some atomic nucleus, as many people are led to believe). Evolution, in particular, is highly speculative, as I have expounded in section 6.1. But he is absolutely right in criticizing people that consider some scriptures as holy and not subject to understanding. This is precisely the difference between religion and science. The former is not considered by religions people something to be investigated and understood; on the other hand, science is something based upon investigation and understanding. The problem is that investigation and understanding can be applied to "supernatural" phenomena, that is, science can be extended to encompass the non-physical "world". In these terms, both traditional religions and materialistic science are wrong – or, at best, are partial.

RD writes something curious: "As a scientist, I am hostile to fundamentalist religion because it actively debauches the scientific enterprise. It teaches us not to change our minds, and not to want to know exciting things that are available to know." (p. 321). This phrase is curious because his book is full of debauching of religion. Furthermore, he seems not to want to know anything about what he calls "supernatural" phenomena – clearly, to use his wording, a fundamentalist attitude.

He finishes this section with what he termed a "sad" (p. 322) story of a scientist who turned religious and says: "Fundamentalist religion is hell-bent on ruining the scientific education of countless thousands of innocent, well-meaning, eager young minds. Non-fundamentalist, "sensible" religion may not be doing that. But it is making the world safe for fundamentalism by teaching children, from their earliest years, that unquestioning faith is a virtue." In my opinion, an education that leads to "unquestioning faith" is a bad education, but I am not against (using a word introduced later by RD) "moderate" religious education. I will deal with education in my chapter 12.

11.2 The dark side of absolutism

This section deals with examples of harsh sentences suffered in some countries by people doing acts that conflicted against local religious laws. He

also mentions American fundamentalism, citing an apparently real American woman who said, referring to some countries which are sanctuary for religious terrorists: "We should invade their countries, kill their leaders and convert them to Christianity" (p. 326). He fails to say that this may express the view of many people that declare themselves to be Christians, but it does not fit the essence of the Christ impulse. It just reveals how much his example has been distorted for centuries.

"The Afghan Taliban and the American Taliban are good examples of what happens when people take their scriptures literally and seriously. They provide a horrifying modern enactment of what life might have been like under the theocracy of the Old Testament." (p. 326). Yes, life may have been like that, and it looks horrifying to us. RD fails to recognize that humans and culture have changed, and in biblical times those atrocities had other meanings – besides many of them clearly being images and not descriptions of reality. All ancient texts reveal the same pattern; for example, as I mentioned in section 5, Homer's texts are no less horrifying.

11.3 Faith and homosexuality

This section tells that "... again we have here the classic hallmark of religious absolutism. ... Private homosexuality was a criminal offence in Britain up until – astonishingly – 1967" (p. 326). It expounds the horrors of contemporary sexual prejudices, beginning with the tragic story of Alan Turing. He ends the section with "Attitudes to homosexuality reveal much about the sort of morality that is inspired by religious faith. An equally instructive example is abortion and the sanctity of human life." (p. 329). These questions will be dealt with in the next section.

11.4 Faith and the sanctity of human life

In this section RD expounds the inconsistency of people that are against abortion but are in favor of killing adult humans. He makes an interesting observation: "I am not sure what to make of my admittedly anecdotal observation that many of those who most ardently oppose the taking of embryonic life also seem to be more than usually enthusiastic about taking adult life." (p. 329). Then he mentions the case of former president George W. Bush, who was against abortion, that is, he was against taking the life of an embryo. Nevertheless, his state, Texas, "has been responsible for more than one-third of all executions in all fifty states of the Union. And Bush presided over more executions in Texas than any other governor in the state's history, averaging one death every nine days." (idem). I totally agree with him in this issue. I am absolutely against taking a person's life, in any circumstance whatsoever.

RD's tells that the main argument against abortion is the embryo's suffering. But in its early stages, the embryo has no nervous system, so it does not suffer. Moreover, in some cases if the mother does not abort, she may be subjected to quite a bit of suffering. He tells the story of an anti-abortionist who killed a doctor who was doing legal abortions, which certainly produced lots of suffering for his family, and relates some cases where anti-abortionist criminals were clearly moved by religious faith.

RD does not use the argument that there are different views about when the embryo really has "life". For instance, for Catholics the "soul" of the child "enters" the body at the time of conception. For Jews, when the child is born. On the other hand, the current medical concept of death is when there is no more nervous activity in the brain, so the embryo would be living only when such activity is present.

I am against abortion, because in general I don't believe in chance. If there is a conception, the future human must have some mission, which could be important to herself, the people involved in her life or even to humanity. But I think this is a private matter of the embryo's parents. One should explain to them all sides and views about the matter, including the question "Just imagine if one of you would have been eliminated as an embryo!", and let them decide, in the same (simpler) way that they should decide to use or not to use contraceptives. RD treats this last question in his next section.

11.5. The Great Beethoven Fallacy

The title of this section is derived from false stories such as some professor having asked a student what he would do to an embryo whose "father was syphilitic, the mother, tuberculous. Of the four children born, the first was blind, the second died, the third was deaf and dumb, the fourth was also tuberculous". (p. 337). If the student had recommended "terminate the pregnancy", then the professor would declare that "he would have murdered Beethoven." (idem). Besides showing that the story and similar ones are false, RD argues that this argument should also be applied to any prevention of conception. Then he uses an evolutionary argument: there was continuity in evolution, so there is no borderline between being human and being of a close species: "The *humanness* of an embryo's cells cannot confer upon it any absolutely discontinuous moral status. ... it could be argued that humans are more capable of, for example, suffering than other species. This could well be true, and we might legitimately give humans special status by virtue of it. But evolutionary continuity shows that there is no *absolute* distinction. Absolutist moral discrimination is devastatingly undermined by the fact of evolution." (p. 340).

I don't agree with his argument. To me, there is a clear discontinuity between humans and our close animal species. We may have had a common physical ancestor; apes may have descended, and we ascended the path of evolution. But what is important is the present characteristics, e.g. our language, erect position, thinking, creativity, etc., which are absent in animals. RD cannot go beyond physical characteristics; but from a spiritual point of view, the differences are much bigger, for instance the fact that only humans have the potential to exercise free will. Moreover, as I said, it is an undeniable fact that interrupting the embryo's development eventually prevents the appearance of a person that may possibly turn to be very important for the family, the community, the country or for humanity. This fact should be taken into consideration by parents when they plan an abortion.

11.6 How "moderation" in faith fosters fanaticism

After giving some striking examples of terrorists that killed other people because of religious faith, RD writes: "But what is hard for us to understand is that – to repeat the point because it is so important – *this people actually believe in what they say they believe*. The take-home message is that we should blame religion itself, not religions *extremism* – as though that were some kind of terrible perversion of real, decent religion. ... As long as we accept the principle that religious faith must be respected simply because it is religious faith, it is hard to withhold respect from the faith of Osama bin Laden and the suicide bombers. The alternative, one so transparent that it should need no urging, is to abandon the principle of automatic respect for religious faith. This is one reason why I do everything in my power against faith itself, not just against so-called "extremist" faith. The teachings of "moderate" religion, though not extremist in themselves, are an open invitation to extremism." (p. 345)

The problem here is that not all religions have evolved and adapted to modern times, that is, to the changes in humans and in culture. Any faith, that is, renouncing reasoning in favor of feeling (see section 4.2), is an undue return to the past – and this includes faith in science, as it is clearly RD's position.

I agree with his proposal for abandoning automatic respect for religious faith, simply because of the fact that there should be no *automatic* respect for anything whatsoever. For instance, humans deserve respect, but if an individual is dangerous for society, he must be confined. Nevertheless, in this confinement there should also be respect for his dignity and life.

I see a contradiction in his last phrase. Probably what he calls "moderate religion" is a religion that has adapted its principles and practices to our times. But in this case, it would never be "an open invitation to extremism". A solution to this contradiction is that there are no really "moderate" religions. All of them are based upon faith and dogmas which, as I have repeatedly said, are not proper for modern humans.

He finishes this chapter by mentioning religious teaching to children. I will comment about this in the next chapter.

12. Chapter 9 – Childhood, abuse and the escape from religion

RD begins this chapter with the story of Edgardo Montanara, "a six-year-old child of Jewish parents living in Bologna" who in 1858 "was legally seized by the papal police acting under orders from the Inquisition ... and thereafter brought up as a Roman Catholic. Aside from occasional brief visits under close priestly supervision, his parents never saw him again." (p. 349).

The story was told in a book by D.I.Kertzer cited by RD. The latter calls the attention that, first, it "was by no means unusual in Italy at the time. ... Second, is the extraordinary fact that the priests, cardinals, and Pope seem genuinely not to have understood what a terrible thing they were doing to poor Edgardo Mortara. It passes all sensible understanding, but they sincerely

believed they were doing him a good turn by taking him away from his parents and giving him a Christian upbringing [he had been previously "baptized" by a nursemaid while he was terribly ill]. They felt a duty of *protection!*" (pp. 351-2). Then he cites American and Italian newspaper articles of the time, giving reason to the Church. "Third is the presumptuousness whereby religious people *know*, without evidence, that the faith of their birth is the one true faith, all others being aberrations or downright false. ... Fourth, to pursue the same theme, is the assumption that a six-year-old child can properly be said to have a religion at all, whether it is Jewish or Christian or anything else. ... Even without physical abduction, isn't it always a form of child abuse to label children as possessors of beliefs that they are too young to have thought about? Yet the practice persists to this day, almost entirely unquestioned. To question it is my main purpose in this chapter." (p. 353-4).

I agree with most of RD's criticisms about this case and about the comments issued at that time to justify those horrible actions. But RD fails to recognize that things have changed. Montanara's story would be absolutely unthinkable in our times in civilized countries. In many aspects, we should recognize that some religions and society have progressed (but not to the point I would consider reasonable).

As for children possessing "beliefs that they are too young to have thought about", RD fails to recognize my main point against his arguments in his chapter: every child is born with religious feelings and beliefs. I will tell here a personal story. I was brought under what RD would certainly call "moderate religion". My father (a scientist...) was absolutely materialist, but my mother and grandparents "moderately" followed religious traditions. When I was 10, my parents moved to another home, where there were wooden stairs. These stairs, next to my bedroom, cracked sometimes during the night, probably due to changes in temperature or humidity. Well, to me those noises were made by angels going up and down the stairs. Only at puberty my religiosity began to fade. I wonder how many 10-year-old children of our cynical and materialistic times would still be innocent and full of fantasy to believe in angels.

One of the principles followed by Waldorf Education around the world is that every child has a natural religiosity. Thus, Waldorf schools incentive parents to give their children some religious education. When possible, these schools invite religious people or even parents to give religion classes, grouping students of the same religion. In the case that no one is interested in holding these classes for a certain religion, the school provides free ecumenical religion classes taught by teachers. Parents decide if their children should attend religion classes or not. In Waldorf Education, a sense of religious veneration towards nature and humankind is awakened in students since kindergarten and elementary school. Moreover, the Waldorf curriculum prescribes using fairy tales as a general teaching tool in first grade, fables and history of saints in second grade, the Old Testament in third grade, Nordic Mythology in fourth, ancient civilizations (including old India, Persia, Babylon, Egypt and Greek Mythology) in fifth grade [see an [on-line Waldorf curriculum](#)]. So, every student enters in touch with old religious thinking; nevertheless, a revealing fact is that many Waldorf graduates do not

remember that they went through any religious teaching at all. Some say that they were subjected to many religions during their schooling. A [survey on myths about Waldorf Education](#) was done by Wanda Ribeiro and Juan Pablo Ribeiro de Jesus Pereira, interviewing former graduates of the Rudolf Steiner School of São Paulo, Brazil, shows these facts. It is worth examining their report, to see that "moderate" religious education during childhood and early adolescence absolutely does not induce a religious attitude in adult life.

Children's natural inclinations towards religious attitudes means that if they live with them, they feel more secure. Moreover, children live in a fantasy world, and religious images and parables foster their imagination.

It is very interesting to observe that RD himself confesses to having had a religious education: "... the Christian religion in which I was brought up ..." (p. 382). Contrary to his position against religious education, this has not induced him to be a religious adult. It did not prevent him from becoming a materialist and even from being against religions. By the way, there is an important question about this subject: how can an adult consciously choose to be a materialist if she had no previous contact with some spiritual view of the world?

Summarizing, not only some "moderate" religious education is beneficial for children, but it also corresponds to their needs at early ages. In due time, a scientific worldview should be presented, and adolescents naturally embrace it.

12.1 Physical and mental abuse

This section of the book deals with physical and psychological child abuse by clergymen. In particular, RD mentions the fear induced to children and adolescents menaced with the prospect of their going to hell if they do not follow religious prescriptions. For instance, he transcribes a letter he received from a woman with the following terms: "I went to a Catholic school from the age of five, and was indoctrinated by nuns who wielded straps, sticks and canes. During my teens I read Darwin, and what he said about evolution made such a lot of sense to the logical part of my mind. However, I've gone through life suffering much conflict and a deep-down fear of hell fire which gets triggered quite frequently. I've had some psychotherapy which has enabled me to work through some of my earlier problems but can't seem to overcome this deep fear. So, the reason I'm writing to you is would you send me please the name and address of the therapist you interviewed on this week's programme who deals with this particular fear." (p. 361). He also gives other touching examples of adults suffering from religious fears instilled into them while they were young.

I fully agree with RD about the psychological damage children may suffer when educated through fear. I also don't agree with the notion of hell used to terrify children and adults. These are not healthy educational means, and do not comply with what I understand by the expression "moderate religion" used in the previous section.

Speaking about fear, Waldorf Education is precisely an education without fear: there is no grading system and flunking to terrify students and force them to behave properly and to study. Teachers must be artists to maintain discipline and interest their students through the beauty and usefulness of the subjects being taught.

12.2 In defense of children

The core of this section can be summarized by the following words at its end: "There is something breathtakingly condescending, as well as inhumane, about the sacrificing of anyone, especially children, on the altar of [cultural] "diversity" and the virtue of preserving a variety of religious traditions." (p. 372).

I regret that some people, like many religious fundamentalists, choose to live in a way that was common centuries or thousands of years ago. In most cases, a return to the past leads to some form of degeneration. But it is their own choice as adults. And I don't think we should force them to educate their children in a different way; until their children are adults, parents are responsible for their children. The question is very complex, because we clearly should interfere if there is physical damage for a child – as for instance when parents are against a necessary blood transfusion. But when it deals with psychological damage, e.g. something similar to brain-washing – many extreme religious educations are a form of brainwashing, and it is known that education can irreversibly influence a person's whole life – what are the boundaries which set the limits to interference?

12.3 An educational scandal

This section deals with the British government subsidizing schools which have clear religious tendencies, in particular with the issue of teaching biblical creationism. I will give here my opinion on the latter subject.

RD is absolutely against the teaching of biblical creationism in schools. Many religious people are absolutely against teaching Darwinian evolution. Both are totally wrong. It happens that they ignore the child's and adolescent's development.

Children should have no purely intellectual learning. Every subject should be introduced with fantasy and art – one of the bases of Waldorf Education in elementary education (grades 1-8). This does not mean that scientific subjects should not be covered. But at this age students should enter experimentally in touch with physical, chemical and biological phenomena, rather than through conceptual, theoretical explanations. The proper time to expound these kinds of abstract explanations is high school, where, for instance, theorem-proving should be introduced in Mathematics (it has no practical application, that is, no relation to the real world). In high school, students aren't satisfied with images, stories: they want to understand the world with their intellect.

Thus, biblical creationism, being a collection of images, parables, is absolutely proper for the first years of elementary school. But they are absolutely improper for high school. On the contrary, Darwinian evolution, being an intellectual explanation, is absolutely proper for high school, and absolutely improper for the first years of elementary school.

RD should not shudder with this proposal which, by the way, reconciles all fights for the issue. Up to age 8 children normally take images as realities: they do not distinguish fantasy from reality. All fantasy is real for them, and education should admit this truth and take it into consideration. But after they mature, they naturally discard the images they considered as reality. Classical examples are Santa Claus and the Eastern Bunny. For small children, these images should be told to children as they were realities (it is a shame that some fathers dress themselves as Santa Claus – it should be kept as a mental image, and not as a real thing). The same happens with images for the birth of children. The classical image of the stork is a beautiful one. I and my wife invented another one. We told our children, when they were small, that they had been in heavens, and they felt the impulse of coming to the Earth. Then they looked for a family and a place where they would feel well and could play with nice toys. They saw our family and liked it so much that they asked an angel to bring them to us. This story, with many extra details, was the preferred one by our small children, and we had to constantly repeat it. It is interesting to note that, when our oldest children did not believe anymore in these images and the one about the Eastern bunny, they would keep them for our youngest children, that is, they felt that they were important to the little ones.

Later in their development, children begin to mistrust these stories, and abandon them by themselves. And no child, absolutely no child, will later accuse her parents of having cheated her when she was small.

The main problem here is knowing what a child and an adolescent really are, and how their development proceeds. An encompassing theory and practice about this, dating back to 1919, may be found in Waldorf Education, being successfully practiced in more than 1,000 schools worldwide. It would be interesting for RD to learn something about it and visit some traditional Waldorf school (there are many in England). The problem is that Waldorf Education is based upon a (in the classical sense, non-religious) spiritual view of the human being, and this could make RD's prejudices against anything "supernatural" (cf. section 5 above) prevent him from being open-minded enough (an attitude every scientist should have!) to enter in touch with it.

RD finishes this section with the following phrases: "Let children learn about different faiths, let them notice their incompatibility, and let them draw their own conclusions about the consequences of that incompatibility. As for whether any are "valid", let them make up their own minds when they are old enough to do so." (pp. 382-3). Here RD clearly demonstrates that he does not understand what being a child means. A child that has the capability of noticing incompatibility in different religions is not behaving as a child anymore – she has suffered undue acceleration of her intellectual development. Children should not be subjected to conflicting stories or points of view – they lose their security if they notice the conflicts. This is why I

recommend young parents not to discuss or quarrel in front of their children, because the latter should have reverence for their parents, who should always appear to be right. Children come to this world because they expect a *good* world, not a world full of conflicts. Realizing that the world is full of conflicts, is cruel and makes many people suffer, a child loses its necessary confidence and accumulates frustrations. Unlimited confidence in the world is precisely what children naturally have and should have. Children should not learn how to be critical and look for negative aspects of anything; there is time for that, and the correct time is after puberty. Unfortunately, nowadays in many places children should know that they are at risk against accidents and 'bad' people, so one must tell them about these dangers. But this does not mean that they should see violence. Fairy tales also contain bad characters (but the good ones always win), but they should remain in the child's imagination. One should never take a small child to a theater play or to movies representing fairy tales.

12.4 Consciousness-raising again

RD begins this section saying that his daily newspaper published a picture showing an ecumenical nativity play set up by a school, where "The Three Wise Men were played by Shadbreet (a Sikh), Mushraff (a Muslim), and Adele (a Christian), all aged four. Charming? Heart-warming? No, it is not, it is neither. It is grotesque. How could any decent person think it right to label four-year-old children with the cosmic and theological opinions of their parents? ... Just imagine the outcry if the caption had read, "Shadbreet (an Atheist), Musharaff (an Agnostic) and Adele (a Secular Humanist), all aged four. Mightn't the parents actually be investigated to see if they were fit to bring up children?" pp. 379-80).

There are two points worth mentioning here. First, RD does not recognize the deep significance of the symbols involved in the Nativity stories. Yes, there are two of them, Luke's and Matthew's, and they are completely different. For example, in the first one, the visitors were shepherds (Luke 2:8-16) who found "the babe lying in a manger" (2:16) because "there were no rooms for them [Joseph and Mary] in the inn" (2:7). In the second one, the visitors were the "wise men from the east" (Mat 2:1), "And when they were come into the house [not an inn's stable!], they saw the young child" (2:10). One good interpretation for these images is that the shepherds represent non-intellectual, simple-minded people, more directed by their hearts; the wise men represent intellectually developed people, more directed by their reasoning. As a matter of fact, the atmospheres of both evangelists are totally different, Luke's is a naïve story (e.g., Joseph does not react when he realizes that Mary is pregnant), Jesus' genealogy ascending up to Adam and God (Luke 3:23-38) passing by Nathan, the priest son of king David, as I've pointed out in section 6.5. Matthew's is more intellectual (e.g. Joseph wants to leave Mary when he realizes she is pregnant (Mat 1:19), and the genealogy passes through Salomon, the king and (intellectually wise) son of David, going down from Abraham, who counted the stars (Gen 15:5), that is, had an intellectual development unusual for his time. There are many symbols in the two Nativity stories, and they can (and should) be understood. Up to the Middle Ages, these symbols, as well as those of fairy tales, were taken intuitively, through the feelings. Now the time has arrived where they should

be understood through our intellect. It is painful to me to see in Christmas times this lack of understanding of the two stories, through representations of the stable with shepherd figures appearing together with the wise men.

If I was involved in the school mentioned by the newspaper cited by RD, I would have recommended that the Luke nativity story should be represented by the children, instead of Matthew's story. It is more appropriate to children – one notices here how important it is to understand the deep significance of the Gospel's symbols.

The second point is that children absorb those symbols with their hearts, with their feelings, and not with their reasoning. Moreover, the Nativity symbols are universal; they do not depend on a special religion, so I find nothing wrong in involving children of different confessions. Their origin associated those symbols with Christianity, but children do not absorb them as having something to do with a religion; for them, the Nativity story is just a beautiful and touching story. Obviously, adults accompanying those children should not take advantage of the situation and evangelize non-Christians. By the way, if one reads the Gospels carefully, one notices that the Christ Jesus did not want to introduce a new religion – he wanted to renew Judaism, as I have mentioned in section 10. The gospels do not give any indication of cults; they expound the life story of a person as examples of attitudes, one of the main ones being tolerance.

RD's main point in this section is perhaps represented by his phrase "Our society, including the non-religious sector, has accepted the preposterous idea that it is normal and right to indoctrinate tiny children in the religion of their parents, and to slap religious labels on them – "Catholic child", "Protestant child", "Jewish child", "Muslim child", etc. although no other comparable labels: no conservative children, no liberal children, no Republican children, no Democrat children. Please, please raise your consciousness about this, and raise the roof whenever you hear it happening. A child is not a Christian child, not a Muslim child, but a child of Christian parents or a child of Muslim parents. (pp. 381-2).

It is impressive that such an intelligent person as RD can make such a confusion. "Atheist", "Agnostic", "Secular Humanist", "conservative", "liberal", "Republican" and "Democrat" all represent ideas, ideologies, intellectual views of the world, that's why it is ridiculous to label children with them. Religions are not intellectual, they are directed to the feelings and will, that is, appropriate for children. As I have been expounding, they are nowadays inappropriate for adults, who should seek understanding.

Maybe it is worth citing some words of his last paragraph in this section, because it helps characterizing RD's personality: "I have probably said enough to convince at least my older readers that an atheistic worldview provides no justification for cutting the Bible, and other sacred books, out of our education." (p. 387).

12.5 Religious education as part of literary culture

The main point of this section is summarized in this phrase: "But the main reason the [King James] English Bible needs to be part of our education is that it is a major source book for literary culture." (p. 383). I would add that it should be studied because it is also an essential part of the Western history: during centuries it was the only literary source for many people.

13. Chapter 10 – a much needed gap?

In the introduction to this chapter, RD asks the question whether religion fills a gap in human existence, and at the same time asks if this gap is a necessity and should not be filled.

"Religion has at one time or another been thought to fill four main roles in human life: explanation, exhortation, consolation and inspiration". (p. 389). He mentions that he had already dealt with the first two, and in this chapter he will handle the last ones.

13.1 Binker

The word "binker" comes from a poem by A.A.Milne, cited by RD, describing Binker as an "invisible friend" of a 6-year-old boy. He then advances a conjecture that, as children sometimes need to imagine an invisible friend, adults along history had the need of an invisible companion, God: "Did gods, in their role as consolers and counselors, evolve from binkers, by a sort of psychological "pedomorphosis"? Pedomorphosis is the retention into adulthood of childhood characteristics. ... Could religions have evolved originally by gradual postponement, over generations, of the moment in life when children gave up their binkers – just as we slowed down [in comparison to apes], during evolution, the flattening of our foreheads and the protrusion of our jaws? ... I suppose, for completeness, we should consider the reverse possibility. Rather than gods evolving from ancestral binkers, could binkers have evolved from ancestral gods? This seems to me less likely. ... It might be better not to treat gods as ancestral to binkers, or vice versa, but rather to see both as by-products of the same psychological predisposition. Gods and binkers have in common the power to comfort and provide a vivid sounding board for trying out ideas. We have not moved far from Chapter 5's psychological by-product theory of the evolution of religion." (pp. 391-4).

In my chapter 8 I have already argued against psychological interpretations for the introduction of God or gods in mankind's history. Here I want to advance a hypothesis that some children really have some faint perception of the spiritual world (something a materialist as RD cannot admit), and they interpret it as gnomes, invisible friends, etc. Our oldest daughter, who was a dreamy child, had such a friend, and she also saw gnomes, until she was 6-7 years old. For her, this friend was absolutely real, and we thoroughly respected her visions; for instance, we would not sit on a chair if she declared that her "friend" was sitting there. Children somehow repeat humanity's evolution: this faint perception of the spiritual world was common to all people in ancient times and were expressed through the images of myths. As I already said, the intellect was not developed yet at that time (as it is not

developed in small children), and the non-physical visions people had could not be formulated through concepts.

13.2 Consolation

This section deals with the consolation effect that the belief in God may represent to many people. RD divides consolation into two types: "Direct physical consolation" and "consolation by discovery of a previously unappreciated fact, or a previously undiscovered way of looking at existing facts." (p. 398). For the first type, God could be an imaginary "person" consoling people "in the same kind of way as the real arms of a friend" (idem). For the second type he says, "it is easy to believe that religion could be extremely effective." (ibidem) and proceeds to discuss the question of the fear of dying.

Here we enter a delicate subject: if there is some kind of existence after death. RD and materialists obviously cannot admit it, because this existence is clearly not physical. I've commented already about the issue of reincarnation in sections 5.1 and 8.5. I think there is a fundamental distinction between religious people who have an incomprehensible idea of an existence after death, with images like the purgatory, heavens, etc., and those who have clear concepts of what in the human being subsides after death, what is the process this part of the human being undergoes at that time, and what symbols like the Purgatory really mean. The distinction is that the first type of people has just some feelings about some existence after death and cannot have the security given by clear and consistent concepts about the subject the second type of people have. I presume the fear of death is of a different nature in each case. Clearly, RD has a point when he says, "If the transition [between life and death] is painful, you should no more wish to undergo it without anaesthetic than you would wish to have your appendix removed without anaesthetic." (p. 400). It is natural that in unbearable pain, people want not to feel it, independently of their worldview. Nevertheless, this has nothing to do with the fear of death in the absence of dying pains. In this situation, I presume people of the second type should have less fear than those of the first type, and the latter should have less fear than materialists or people in general who do not believe or make the hypothesis that there is an existence after death, unless for the fear of being condemned to the "Purgatory" – a "doctrine", in RD's words (p. 403) – or to hell (which people of the first type do not fear). In this sense, a worldview with clear concepts about the non-physical constitution of the human being should provide more consolation as other views. But this should not be the main motivation for embracing such a view, because this would be a selfish motivation.

13.3 Inspiration

"As many atheists have said better than me, the knowledge that we have only one life should make it all the more precious. The atheist view is correspondingly life-affirming and life-enhancing, while at the same time never being tainted with self-delusion, wishful thinking, or the whining self-pity of those who feel that life gives them something." (pp. 404-5). I agree with the first phrase but would complete it saying that in that case life is just precious to be selfishly enjoyed, in a sort of existentialism. I can't agree with

the fact that the materialist view is life-affirming and life-enhancing. To begin with, scientific materialism cannot define or satisfactorily characterize and explain life. Secondly, if life does not give anything other than pleasure, then it is absolutely irrelevant if somebody lives or not. This contradicts his phrase before the one cited above, "However brief our time in the sun, if we waste a second of it, or complain that it is dull or barren or (like a child) boring, couldn't this be seen as a callous insult to those unborn trillions who will never even be offered life in the first place?"(p. 404).

On the other hand, consider the spiritual worldview that assigns a purpose to human life: the perfection of the non-physical "higher self". Obviously, this perfection is not the acquisition of knowledge: with knowledge, one may devise ways of destroying nature and humans. This perfection is moral: the development of altruism, unselfish love. Just compare the inspiration one gets from such a view, and the full lack of inspiration provided by materialism.

A phrase by RD deserves a comment: "... our brains turn out to be powerful enough to accommodate a much richer world model than the mediocre utilitarian one that our ancestors needed in order to survive." (p. 405).

First of all, RD cannot point out where in our brain we accommodate mental models. This is pure speculation. In section 4.1 I gave the example of the concept (not the symbolic representation!) of the number 2, and of a perfect circle as pure concepts, which have no symbolic representation, thus impossible to be "stored" in the brain. Other examples are the geometrical concepts of point, line and plane: they only exist as abstract concepts; how can they be physically represented and "stored" in the brain? How is it possible that we surpass the necessary circular definitions in a dictionary? It seems to me much more reasonable to get rid of RD's prejudice against "supernatural" entities and suppose that these concepts do not reside in our brain, but in a non-physical Platonic world of ideas, and we are able to reach and observe it with our thinking. R. Steiner wrote: "... the content of a concept, which is added to the percept by means of thinking, is not subjective. This content is not taken from the subject, but from reality. It is that part of the reality that cannot be reached by the act of perceiving. It is experience, but not experience gained through perceiving. If someone cannot see that the concept is something real, he is thinking of it only in the abstract form in which he holds it in his mind. But only through our organization is it present in such isolation, just as in the case of the percept." [STE, p.261, see also the [on-line edition](#)]).

The rest of RD's last cited phrase reveals something terrible: how materialists necessarily despise our ancestors. This is incredible because they were wise enough to enable us to live now. Does our scientific wisdom guarantee that our descendants will be able to live in this world that is being destroyed precisely by technology, this preferred science's daughter? Our ancestors had an intuitive way of dealing with nature, in much harsher conditions. We lost this intuition, consider that we are much wiser than nature itself, and are changing it at its root, for example with genetic modification.

13.4 The mother of all burkas

RD uses the burka slit as an analogy for the narrowness of our sense impressions: we don't see ultraviolet or infrared light, we don't see X-rays, ultrasounds, etc. "Darwin seized the window of the burka and wrenched it open, letting in a flood of understanding whose dazzling novelty, and power to uplift the human spirit, perhaps had no precedent – unless it was the Copernican realization that the Earth was not the centre of the universe." (p. 411). No, the main impact of Darwin's wrench was getting rid of religious thinking, that is, non-substantial concepts of the world based upon feelings and not the intellect. But now we have to recognize and overcome its limitations, as I've expounded in sections 5.1, 6.1 and 7.2. We have to make another step forward, and this step is admitting the hypothesis of the existence of a "supernatural" world, as RD called it.

RD calls "Middle World ... the intermediate range of phenomena that the narrow slit in our burka permits us to see" (pp. 418-9) and finishes his fascinating book with the following. "Could we, by training and practice, emancipate ourselves from Middle World, tear off our black burka, and achieve some sort of intuitive – as well as just mathematical – understanding of the very small, the very large, and the very fast? I genuinely don't know the answer, but I am thrilled to be alive at a time when humanity is pushing against the limits of understanding. Even better, we may eventually discover that there are no limits." (p. 420).

When I read these words, I have immense pity on him, due to the limits his prejudices have constrained him with. In this section, he mentioned some "queer" concepts of quantum theory. I've already commented about this in section 7.4, where I also commented on the fact that we don't know what an electron is. So, his "very small" seems to vanish from what we can perceive and understand about physical matter, and appear as mathematical formulas, which are pure concepts, without physical consistency. Thus, one may suppose that at that level physical matter disappears, and we are at the border with the non-physical "reality". The same happens with the "very large", beginning with the borders of the universe. The Big Bang theory presupposes a mysterious empty space where the debris of the original "explosion" expanded into. Obviously, this expansion must have some borders. To explain the apparent accelerated expansion of the detectable universe, recently the abstract concept of a mysterious dark (repulsive) energy was introduced. Nobody knows what it is. By the way, recent theories are challenging the concept of dark energy – exactly by putting the Earth in the center of a cosmological void [CLI] which, according to the authors, is reminiscent of the old Ptolemaic geocentric model. One may also suppose that at the "very large" one is also at the limit of physical reality, bordering the non-physical. Last but not least, the origin of matter and energy is also something that surpasses physical understanding. And then we come to life phenomena. RD is satisfied with the explanations advanced by Darwinian evolution; I'm not. As I expounded in section 7.2, nature is not simple, and it is not a simple mechanical device. I will return to this point in my next and last chapter. Furthermore, there are lots of unknown facts about living beings. All these are indications that we should expand our scientific method, which has, even in mathematics, introduced limits to our knowledge. This expansion

is clear to me: it is time to get rid of the burka-slit prejudice that there are no "supernatural" phenomena in the universe. This way we may expand research, and not restrict it.

14. Final remarks

This review has become too long. But I wanted to go through all of RD's chapters and sections in some detail and make literal citations so as to be as faithful as possible to his own words, therefore the outcome had to be long. I urge the reader not to be satisfied with my numerous citations but read the highly interesting original. By necessity, my citations are small bits of his large book, the choices could not be representative enough, some could be lacking important context and important points may have been skipped.

I agree with many of RD's arguments. In particular, I am against blind faith, which is at the root of many religions and fundamentalisms. But I have other arguments for some of the points mentioned by him. For instance, the idea of an abstract personal God who punishes and rewards, thus forcing people to have "good" behavior, where this "good" is established as dogma and goes against individual freedom. As we saw in section 5.4, being a materialist RD cannot speak about individual freedom and free will, because matter inexorably follows physical "laws" and conditions. Being a spiritualist (see my notion of it in my chapter 1), I can. I don't think moral should be imposed, as religions in general do; it should be individually deduced out of knowledge, feelings of compassion and love, and intuition. For instance, if one admits by hypothesis that free will has been one of the main conquests of humanity, then a moral action should never impair another person's freedom. Furthermore, if one admits that human life has a meaning (something a materialist like RD cannot suppose – from matter no meaning can arise), which is the inner moral development of everyone, then one has to conclude that it is not correct to kill a person, in any situation. (This does not mean that a dangerous, mentally sick person should not be confined to prevent his damaging other people.) Another point is that RD's materialistic view of the world cannot lead to individual or group responsibility. Matter has no responsibility whatsoever. The responsibility I consider adequate for modern people should arise from personal free will, knowledge, and social intuition. If people are forced to behave in a responsible fashion, they will never develop free will and their own responsibility. This does not mean that one should not follow laws and social rules. But they have to be followed due to recognition of their validity, and not out of fear of being punished (much less in an after-life "hell"), fined, out of a Kantian sense of duty, etc.

In my comments I said evolution is a fact. But my idea of evolution differs from Darwinian evolution because I admit non-physical causes for mutations and selections. In particular, selections that are directed by non-physical members of living beings or species thereof are not "natural", meaning due to physical causes. My position is a proper superset of Darwinian evolution because I assign causes to some mutations and gene combinations, and some encounters among individuals and their environment, leading to selections. I could be strict, and say that *all* mutations, gene combinations and encounters have a non-physical cause, but I want to maintain a dialogue with materialist evolutionists and will admit that some may be purely random.

As I said in my text, Darwin had a very important mission for mankind: by establishing a rational ground to the appearance of species and their development, he cut the dependency on religious explanations, which were not directed to reason, and had become tradition or dogma. Nevertheless, he ended up imposing another type of fixed idea, very well represented by RD: everything in living beings, their form, the function of their organs and their behavior, can be explained by natural selection, that is, by material causes.

Darwin liberated humanity from the chains of religion, a gigantic contribution to the development of mankind. Now the time has come where we should liberate ourselves from the narrow trough of thinking that everything in the living world is due to a very simple mechanism. Living beings are extremely complex and are not mechanical things. In fact, I became quite radical lately in this respect: now I consider that nothing, absolutely nothing in a living being is purely mechanical. In living beings, it is not possible to produce an ending chain of causes and effects. For instance, our arms do not work as pure levers. To begin with, there is no mechanical lever with the complexity of the tissues involved when we move them. Secondly, and most important, where does the impulse for an arm movement come from? If one traces the nerve impulses leading to stretching and contracting some muscle tissues, one may get to neurons in a part of our brain or our spinal cord. Great. But why have these groups of neurons fired? If one considers other groups of neurons which were the cause for it, then we have to ask the same question for them and will eventually come to an end: some neurons fired without apparent cause. I may suppose, then, that something non-physical, our will, gives origin to the first nerve impulses which lead to the final movement. In section 4.1 I advanced my theory on how this is possible, by using non-deterministic transitions. Interesting enough, all this goes on in the deep unconscious – we don't follow the appearance of the nerve impulses, and don't follow the contraction and expansion of our tissues and muscles.

Darwin was instrumental in establishing and propagating a materialistic idea: humans are just animals. But materialism did not stop at his contribution. More recently, it has been trying to impart the idea that humans are machines. In my paper "[AI - Artificial Intelligence or Automated Imbecility? Can machines think and feel?](#)" I elaborated extensively on this subject, showing why I consider it to be wrong.

There is one field where natural selection fully applies: capitalistic economy. The expression "savage capitalism" indicates that in this system almost everything is valid in terms of exploration of individuals, of trying to destroy competing enterprises, etc. In short, capitalism means the survival not of the euphemistic "more fit", but literally of the stronger. In savage capitalism, there are no feelings, no compassion for others, and one finds exactly the selfishness what one would expect in natural selection if it were a purely material process. I wonder if the present economic crisis will show that savage capitalism is not a solution for humanity, and that it ends up causing widespread suffering. The source of the problem caused by capitalism is that it is based on the same principle of natural selection: selfishness. Recall the title of RD's famous book, *The Selfish Gene*. Since Adam Smith, that is, already for more than 200 years, the idea has been that by satisfying individual and group egotism and ambition society will progress and

everybody will be happy. This has not happened, on the contrary, we hear every day about social and individual misery, where is Smith's "invisible hand"? We must overcome selfishness; we have to develop what only humans can have: unselfish love. Love is constructive, selfishness is destructive (if not immediately and locally, certainly in the long term and in general). Unselfish love can only be practiced through free decisions, so it also does not make sense from a materialistic point of view.

Please don't think I am in favor of socialism or communism. On the contrary, I deplore them, because they ignore that individuals have different needs and abilities and have the right to freedom. To me, the means have to be identified with the ends. Obviously, I cannot agree with Marx's historical determinism, which is a materialistic view of history. But one has to recognize that communist countries have shown that there are other systems that can house and feed lots of people. In fact, I have the impression that China will get into a social disaster if it fully embraces savage capitalism. Capitalism survived and communism declined because the former is more adapted to selfishness – which must be overcome by developing altruistic love. Furthermore, capitalism is based upon freedom, which is an essential part of present human constitution. But it's a freedom applied in wrong areas of society: instead of being exercised in creative processes, it is applied in the economic sector: production, distribution, and consumption. Anyone can produce whatever he pleases – if there is no need for his product, no problem, he is free to artificially create this need through advertising (which is the technique of making people buy what they don't need, or what is more expensive, or of a lesser quality). Anyone can consume in excess, thus preventing other people from consuming what they need. So, what is needed in the economic area is not freedom, it is solidarity, that is, fraternity. Capitalism also means applying freedom in the political-judicial area, e.g. by allowing rich people and big enterprises to hire the best lawyers, and to corrupt the political system. In these areas the correct spirit should be equality or democracy: every person should be equal to the others as far as laws are concerned.

There are other ways of organizing society and the economy with healthier, more stable bases than communism or Darwinian capitalism. But for that, one has to overcome economic natural selection, selfishness and lack of compassion. Humans are not purely natural beings. Prehistoric cave paintings show that, since the beginning of cultural humanity, they were not: animals don't make creative art. So, the concept of natural selection should not be applied to them. Alfred Russell Wallace, the introducer of the theory of natural selection in parallel to Darwin, had precisely this point of view – this was a consequence of his spiritual worldview. I have a conjecture that Wallace is widely ignored just because of his spiritual view – it is an outrage to materialist thinkers; for them, he was an extraordinary scientist, but completely nuts in terms of his worldview. That is, for them he was at least schizoid, if not schizophrenic. This is false: it is possible to have clear thinking when dealing with spiritual matters.

This new type of thinking may eventually reverse the terrible present trend of destroying nature, the individual and society. Religions don't use clear thinking. Dawkins uses it, but his way of thinking is producing the destruction

of nature. In fact, "moderate" and fundamentalist religions are not destroying it: this is being done by technology at the service of human selfishness and greed. As I pointed out above, only a spiritual worldview may admit the possibility of free will and thus the development of unselfish love, the only solution to the present terrible situation humanity is going through.

References

[CLI] Clifton, T. and Ferreira, P.G. "Does Dark Energy Really Exist?" *Scientific American* Vol. 300, No. 4, April 2009, pp. 32-39.

[HOL] Holdredge, C. "The giraffe's short neck". Available at www.natureinstitute.org/pub/ic/ic10/giraffe.htm.

[JAM] Jammer, M. *Einstein and Religion: physics and theology*. Princeton: Princeton University Press. 1999. The quotation is from its translation, *Einstein e a religião: física e teologia*. Trans. by V. Ribeiro, Rio de Janeiro: Contraponto, 2000.

[JON] Johnson, P. *A History of the Jews*. Harper Perennial, 1988.

[LEW] Lewontin, R. *The Triple Helix – Gene, Organism and Environment*, Cambridge: Harvard Univ. Press, 2000.

[SEA] Searle, J.R. *Minds, Brains and Science - the 1984 Reith Lectures*. London: Penguin Books, 1991.

[SET] Setzer, S.A.L. *Parsifal – um precursor do ser humano moderno* [Parzifal, a precursor of the modern human being]. São Paulo: Ed. Antroposófica, 2008.

[STE] Steiner, R. *The Philosophy of Spiritual Activity* [original: *Die Philosophie der Freiheit*, The Philosophy of Freedom], GA (complete edition) 4. Transl. R. Stebbing. West Nyack: Rudolf Steiner Publications, 1963. [Contains the book *Truth and Knowledge* and an introduction by Hugo S. Bergman.] See the [complete on-line edition](#), with a different translation.

[STE a] Steiner, R. *Christianity as Mystical Fact and the Mysteries of Antiquity*. GA 8. Transl. E. A. Frommer, G. Hess and P. Kändler. London: Rudolf Steiner Publishing Company, 1961. See the [complete on-line edition](#).

[TAT] Tattersall, I. "How we came to be human." *Scientific American* 295, 6, Dec. 2001, pp. 42-49.

My cited essays and papers, available on my web site:

Setzer, V.W. A.I. – artificial intelligence or automated imbecility? Can machines think and feel? <http://www.ime.usp.br/~vwsetzer/IAttrad.html>

Setzer, V.W. Considerations about the DNA hype. <http://www.ime.usp.br/~vwsetzer/DNA-eng.html>

Setzer, V.W. Darwinian Evolution vs. Intelligent Design.
www.ime.usp.br/~vwsetzer/letter-SCIAM-0602.html

Setzer, V.W. Is there just matter or also spirit in the universe?
www.ime.usp.br/~vwsetzer/spiritualist.html

Setzer, V.W. Science, religion and spirituality.
www.ime.usp.br/~vwsetzer/science-religion-spirituality.html

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