

Joao Barcellos

Some Jocaxian 's Articles 2

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João Carlos Holland de Barcellos (Jocax)

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The Origin of the Universe, by Jocax

João Carlos Holland de Barcellos

The problem of the origin of the Universe is old, perhaps the oldest philosophical problem mankind has ever faced.

If we define the universe as a set of all existing things and if we assume that the physical elements contained in it follow rules or laws – such as the laws that Physics supposes to exist – we can conclude that the theories proposed so far are not completely satisfactory. In order to compensate this shortfall, I herein propose a new hypothesis that, although not testable and therefore not scientific (to Popper), it is a legitimate philosophic theory, since it satisfies the “Occam’s Razor”; it is self-consistent and does not go against the observed facts.

Criterion of Evaluation

Before we explore the analysis of these theories, I want to propose some criterion that should be satisfied by the proposed solutions. The best theories should satisfy, as much as possible, the following requirements:

- 1- *Not be contradictory.*
- 2- *Not be inconsistent with the observable reality.*
- 3- *Be compatible with the “Occam’s Razor” in relation to the concurrent theories.*
- 4- *Be capable of explaining the observable universe.*

We can also classify the theories about the origin of the universe in two large groups:

Religious and natural theories.

1- Religious theories

Religious-based solutions about the origin of the universe evoke a metaphysical entity called “God”. God would be something like a “Great Ghost” that created the Universe with his power and endless wisdom.

Religious theories, although widely accepted by the majority of people, do not pass the majority of evaluation criterion proposed above:

- Criterion flaw one: the theory of the “Great Ghost” is not logically consistent since according to the definition of universe, if God existed it should be also a part of the Universe, since it is defined as a set of all existing things. Thus, God would only be useful to explain the generation of the physical elements of the universe, but not the generation of the universe itself. If the theory needs to explain the origin of the universe, then it needs to explain the origin of God.
- Criterion flaw two: the “Great Ghost” usually comes with other attributes such as consciousness, omniscience, omnipotence and kindness, that generates incompatibility with the observable reality (see “Jocaxian Little Blue Devil”, chapter I.2)
- Criterion flaw three: the “Great Ghost” is also incompatible with the “Occam’s Razor” because, since it is hypothetically gifted with endless wisdom and power, it does not follow the criterion of simplicity demanded by the “Occam’s Razor” in relation to the physical theories about the origin of the universe. That is, when we talk about explanations on origins, it is nonsense to evoke a more complex entity that explains a simpler one if there is no explanation about the more complex entity itself.

2- Natural theories (or non-religious)

Natural theories are preferable to religious ones since they do not assume the pre-existence of a highly complex being. Natural theories can be divided into two groups:

Physics-based natural theories and philosophy-based natural theories.

2.1- Physics-based Natural theories

Physics-based natural theories are not satisfactory due to the following flaws:

- Criterion flaw one: if the physical laws exist and are used to explain the universe, then they should also be explained, since they are part of the universe we wish to explain. That is, the majority of them, as we will see, attempt to explain the origin of the universe by adopting some principles of Physics such as the “ Principle of Conservation of Energy” and laws of “Quantum Mechanics” or even “general Theory of Relativity”, without however explaining the origin of these laws.

zero. When, at last, the negative gravity matter started to decay, diminishing the pace of the expansion, the “primordial soup” was formed (gas at very high temperatures), presented as the initial condition in the Big-bang theory”.

- From “The Uncaused Beginning of the Universe (1988)” by Quentin Smith [3]:

“A disadvantage of Tryon's theory, and of other theories that postulate a background space from which the universe fluctuates, is that they explain the existence of the universe but only at the price of introducing another unexplained given, namely, the background space. This problem is absent from Vilenkin's theory, which represents the universe as emerging without a cause "from literally nothing" (1982, p. 26). The universe appears in a quantum tunneling from nothing at all to de Sitter space.”

We can notice that the appearance of the matter from “nothing” is not new; science knows it for a while. Besides that, non-caused phenomena (that happen without a cause) are not privilege of exotic entities: consider an excited atom in a high energy orbit. There is no formula – or physical explanation – that can foresee when this electron will go from its high energy orbit to a low energy one. This event is considered as totally random (without causes). When the electron decays from an orbital, a photon (a light particle that did not exist) is created. That is, even in a simple atom we have an example of the existence of phenomena with no cause and the creation of a physical entity that did not exist before (photon). Formerly, some scientists claimed that the cause existed but was not known. This theory was named as “*Hidden Variable Theory*”. Later, it was demonstrated that if there was a ‘hidden’ cause for those events it would violate a mathematical theorem known as *Bell's Inequality*. Nowadays QM understands that there are events without causes in the universe.

In order to complete our list, we should also include the two main theories about the origin of the universe with no initial creation, *the Big Bang Crunch* and the *Stationary State*.

Stationary State Theory [5]

Fred Hoyle (1915-2001), Geoffrey Burbidge (1925-) and Jayant Vishnu Narlikar (1938-) suggested in 1993 the ‘Almost Stationary State Theory’ in an eternal and infinite universe alternating expansions of approximately 40 billion years with contractions. The mass is eternally created in white holes with Planck mass $\ddot{O}[ch/G] = 10^{19}$ baryons. The mini

creation triggers a universe expansion that reduces the average value of the creation field, deposit of negative energy. After the expansion, the field value is reduced, making it hard for a new mini-creation to happen. Gravity then overcomes the expansion and the Universe is contracted, enhancing the field until a new creation occurs.

I think the “Big-Bang-Big-Crunch Theory” is quite elegant; however, it is not compatible with the last cosmological observations that show that the universe is in process of accelerated expansion, that is, far away from a possible contraction. Another inconveniency of this model is that it seems to violate the second law of thermodynamics that says that the entropy must not be reduced. It seems then that the “Big-Bang-Big-Crunch Theory” is unfortunately defeated.

Another problem with the physics-based natural theories is their difficulties to explain the observable universe in relation to some physical parameters – constants that physical laws use – what would turn our physical laws into a set of highly improbable rules. For instance, it is claimed that a little alteration in the electron charge, in the neutrino mass, etc, would make our universe quickly collapse. Let us see some texts about that:

“...The so-called "anthropic coincidences," in which the particles and forces of physics seem to be "fine-tuned" for the production of Carbon-based life are explained by the fact that the spacetime foam has an infinite number of universes popping off, each different. We just happen to be in the one where the forces and particles lent themselves to the generation of carbon and other atoms with the complexity necessary to evolve living and thinking organisms.” (Stenger, 1996) ” [6]

“...That suggests a new answer to another intriguing question: how where the laws of physics so perfectly tuned in a way that they permitted the existence of stars, planets and living beings? The classic answer was: fantastic chance or divine miracle. But now there is a third alternative: if each universe has different physical laws, perhaps we live in one of the rarest whose laws allow the emergence of intelligent life.” [7]

We notice that the answer usually given by those theories about the claim of improbability of physical laws is that there must be infinite or multiple universes parallel to ours and yet somehow, disconnected. Thus, our universe would be only one, amongst infinite existing universes, each one with its own physical laws. But this is not consistent because:

- If physical laws – as *theory M*, for instance, or multiple *bubbles from Guth* – were evoked to explain the appearance of the universe, either ours or the infinite other ones, how can one say that physical laws would be different in those other

universes? If all universes came from the same initial physical laws, we should expect those laws to be preserved in all universes generated by them!

- The models that appeal to infinite rolls of the dice so they can explain the appearing of the number “six” in one of the dice, although can solve the question, they are really strong and seem to contradict the Occam’s Razor, since we do not have evidence of any other Universe besides our own cosmos. A continuous sequence of Universes or a finite number of them would be more reasonable, but not totally satisfactory.
- The explanation that says the bubbles that generate parallel universes have GAPS that disconnect them from each other is also unsatisfactory. For what reason would not matter be continuously created in the same bubble? What would make those gaps disconnected? Why would those universes be unable to communicate?

Nevertheless, the main flaw of the theories that try to explain the origin of the universe by means of a physical base is that they do not explain the origin of the physical laws used for their own generation. We could ask: “Why must the principle of conservation of energy be obeyed?” or yet “Why does quantum mechanics need to be real?” Those theories come from something (physical laws) that already existed. Physical explanations, however, are preferable to religious ones, since a set of laws is simpler than the existence of a supposed being of infinite complexity.

2.2- Philosophy-based natural Theories

Philosophy-based natural theories about the origin of the universe are the ones not based on physical laws to explain their appearing, but they can explain the appearing of the laws capable of governing it. From that point, if necessary, the universe could be a consequence of physical laws, as it was proposed by physical theories, or some other way.

The Origin of the Universe according to Jocax

In order to solve the problem of the origin of the universe, I created a theory that uses the “Occam’s razor” to its full potential. Thus, I start from the simplest state possible, the one that does not need an explanation to exist: the “Nothingness”.

But the “Nothingness” which people think of is not the same “nothingness” I start from, not even the “nothingness” physicists base on. For that reason, I will call my nothingness the “Jocaxian Nothingness”, or simply *JN*. The *JN* is defined as the state of nature in which the following conditions are satisfied:

- 1- *There are no physical elements of any kind (neither matter, nor energy, nor space).*
- 2- *There are no laws whatsoever.*

The "Jocaxian Nothingness" is different from the "Nothingness" we usually think of because when we think about "Nothingness" we think of a real "Nothingness" plus the following rule: "Nothing can happen from this Nothingness ". Thus, the Nothingness people often think about is not the purest possible; it is *a Nothingness with a rule!*

Another way people often think of "Nothingness" is by making it a synonym of *inexistence*. This "Nothingness" as a synonym of inexistence is far from being the "Jocaxian Nothingness" since the *JN* is something that exists and has properties; it would be something similar to an empty set which has no elements, but is still a set.

The "Jocaxian Nothingness" is a "Nothingness" that exists, it is a pure nothingness, an Absolute Nothingness, and therefore, has no rules to be followed, not even the rule "Nothing can happen", and much less the laws of conservation of energy or the principles of Quantum Mechanics in Physics.

The reader could say that "having no rules" is also a rule to be followed, and therefore the definition of the "Jocaxian Nothingness" would be inconsistent. The answer is - Not having rules is the initial state of the "Nothingness", not a rule it has to follow, just like having no matter or energy. Let us explain:

When a system has no rules (or laws) of any kind, it means there are no restrictions laws, and therefore "anything" could happen ... *As much as nothing could happen as well!* That is, the inexistence of laws implies that "something may happen", as its negation, "something may not happen" which includes "nothing can happen" and that represents all the possibilities that a system can have. It is therefore a tautology, an absolute truth. Not a rule. We consider the sentence "anything can happen" in its broad sense, which also comprehends "nothing can happen" so that a system that has no laws is a system in which "anything can happen" (including nothing happening at all).

Therefore, we conclude that the simplest system possible - the "Jocaxian Nothingness" - is actually a *Toti-Potent* system where "Anything can happen."

If "anything" can happen, then this nothingness can generate, at random, anything. But if nothingness can randomly generate anything, it can generate the universe or the physical laws that would allow the appearing of the material universe. On the other hand, the "JN" could also generate the law "Nothing can

happen" and in this case there would be an everlasting nothingness with no possibilities for anything else to happen. This is the idea we normally have in mind when we think of the "Nothingness". But this is only one of the endless possibilities the "JN" can generate.

Thus, I propose that the origin of all was the "Jocaxian Nothingness" that because it does not have laws or rules of any kind, "Everything" - in the broad sense of the word - could happen. As there were no rules for what could happen or not, we conclude that RANDOMNESS must be an intrinsic feature of this system, since it can be defined as the unpredictability of what might happen.

If you're reading this and the hypothesis of the *JN* is true, we conclude that, fortunately, the JN did not "randomize" (generated randomly) the rule "nothing can happen". If the *JN* had generated this rule we would not be here reading this text. On the other hand, if we *suppose* as true the claim that it is highly unlikely that a set of physical laws randomly generated can generate life, then we would have a problem: it would be extremely unlikely (yet not impossible) that the *JN* would have "randomized" our universe, and thus it is convenient that we seek an answer to this improbability.

Our *JN* has a "card up its sleeve": as it does not have to obey physical laws or other rules of any kind; anything could happen, even the JN having "randomized" our universe in the way we have it today, everything created at this very moment, where our memories would have been created consistently. Of course, although this is theoretically possible, it would yet be very unlikely. One of the ways of solving the problem would be plagiarizing the theorists of the pre-*Big-Bang* and say that the *JN* would have randomly created infinity of *bubble universes*, each one with its own physical laws, also random. Thus, our universe would be the only one of many "bubble universes" whose physical laws, fortunately, led to life.

Another possibility, even simpler and more interesting, is the creation of the universe with expiration date: the *JN* would randomly generate a universe with physical laws also randomly generated but with a term or condition of validity, also random. At the end of that period or condition of validity, it would die out and we would come back to the original "Jocaxian Nothingness", which again could "randomize" a new different universe, and so on. This mechanism could explain the "physical laws" of our universe without the need to create infinite parallel universes. There would be a problem if, by chance, the *JN* generated a universe that was the "*Trivial Nothingness*": the Nothingness with the following law "Nothing else can happen." In this case, the JN would create the end of everything, forever.

Some questions may come to the reader's mind:

1- Would not the *JN* feature of not having rules or laws be a rule itself?

No. One rule establishes some form of restriction that must be obeyed. If I say, for example, that "my car is red", this is not a rule but a STATE of the car, a condition in which the car is today. Eventually, the car could be painted blue (or not). Establishing the state of nature, in the conditions defined by the "*JN*", is not a rule to be followed, but an initial state of the system. A rule would be "my car should be red" or yet "my car cannot be red"; in these cases the color of the car would be somehow restricted by a rule.

2- Would saying that anything could happen be a rule? An imposition to the *JN*?

No, because this is a logical consequence of its initial state, not an imposition to the system. Moreover, it would be a rule if we forced the *JN* to generate something and this is not what we are saying. As we saw in the text, I emphasize that from the *JN* anything MAY OR MAY NOT happen. And this is not a rule, it is a LOGICAL TAUTOLOGY- an absolute truth in any circumstances - This implies that the *JN*, just like everything else, follows a tautology (an absolute truth) and not a rule.

3- The *JN* has no physical elements or laws, but does it have any POWER?

If we call "power" the possibility of transforming itself, then the answer is yes. But we must remember that possibility is not certainty, and it could never become or generate anything. It is impossible to say that the *JN* will necessarily generate something. Thus, "power" is nothing more than a possibility, not pre-defined *a priori*, but derived from the initial conditions that define the *JN*.

4- Would the "Trivial Nothingness", where nothing can happen, be more likely to have always existed than the *JN*?

No, the nothingness that people think of (the Trivial Nothingness) is infinitely more unlikely to happen as the origin of the universe than the "*JN*". That is because the "trivial nothingness" has actually ENDLESS rules to be followed: it cannot generate a chair, it cannot generate physical laws, it cannot generate god, it cannot generate a Big Bang, it cannot generate life, it cannot generate particles etc...

We should also note that if the *JN* is an existing physical system, then we conclude that the universe has always existed, although time does not exist in the *JN*, we can say that the *JN* was the universe itself in its minimal state.

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Portuguese Version: <http://stoa.usp.br/cienciafilosofia/weblog/67134.html>

The Jocaxian Nothingness with F.A.Q.

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Abstract

This article explains a theory about the origin of the laws of physics and the Universe

The “Jocaxian Nothingness” (JN) is the “Nothingness” that exists. It is a physical system devoid not only of physical elements and physical laws, but also of rules of any kind. [1]

In order to understand and intuit JN as an “existent nothingness”, we can mentally build it as follows: we withdraw all the matter, energy and the field they generate from the universe. Then we can withdraw dark energy and dark matter. What is left is something that is not the nonexistent. Let us continue our mental experiment and suppress elements of the universe: now, we withdraw physical laws and spatial dimensions. If we do not forget to withdraw anything, what is left is a JN: an existent nothingness.

JN is different from the Nothingness we generally think of. The commonly believed nothingness, which we might call “Trivial Nothingness” to distinguish it from the JN, is something from which nothing can arise, that is, the “Trivial Nothing” follows a rule: “Nothing can happen”. Thus, the “Trivial Nothingness”, the nothingness people generally think of when talking about “nothingness”, is not the simplest possible nothingness, it has at least one restriction rule.

Jocax did not define the JN as something in which nothing exists. Such definition is dubious and contains some contradictions as: “If in the nothingness nothing exists, then, nothingness itself does not exist”. No. First, Jocax defined what it means to exist: “Something exists when its properties are fulfilled within reality”. Therefore, JN has been defined as something that:

1- *Has no physical elements of any kind (particles, energy, space, etc.)*

2- *Has no laws (mainly the law embedded in “Trivial Nothingness”).*

Being so, JN could have physically existed. JN is a construction that differs from the “trivial nothingness” since it does not contain the rule “Nothing can happen”. That way, Jocax liberates his JN from semantic paradoxes like: “If it exists, then it does not exist” and claims that this nothingness is SOMETHING that could have existed. That is, JN is

the simplest possible physical structure, something like the minimal state of nature. And also the natural candidate for the origin of the universe.

We must not confuse the definition of the JN with rules to be followed. It is only the declaration of a state. If nature is in the state defined by conditions 1 and 2 above, we say it is a “Jocaxian-Nothingness”. The state of a system is something that can change, differently from the rule that must be followed by the system (otherwise it would not be a rule). For example, the state “has no physical elements”; it is a state, not a rule because, occasionally this state may change. If it was a rule it could not change (unless another rule eliminated the first one).

Being free of any elements, JN does not presume the existence of any existing thing but its own and, by the “Occam’s Razor” [2], it must be the simplest state possible of nature, therefore with no need for explanations about its origin. JN, of course, does not currently exist, but may have existed in a distant past. That is, JN would be the universe itself – defined as a set of all existing things – in its minimal state. Thus we can also say the Universe (being a JN) has always existed.

JN, as well as everything that can be understood by means of logic, must follow the tautology: “it may or may NOT happen”. This tautology – absolute logical truth – as we shall see, has also a semantic value in JN: it allows things to happen (or not).

We cannot say that events in the JN must necessarily occur. Eventually, it is possible that nothing really happens, that is, JN may continue “indefinitely” (time does not exist in a JN) without changing its initial state and with no occurrences. But there is a possibility that random phenomena can derive from this absolute nothingness. This conclusion comes logically from the analysis of a system without premises: as JN, by definition, does not have laws, it can be *shaped* as a logical system WITHOUT PREMISES.

We shall interrupt a little in order to open up an explanatory digression. We are dealing with two types of “Jocaxian-Nothingness”: the physical object named “JN”, which was the universe in its minimal state with the properties described above; and the theory which analyses this object, the JN-Theory. The JN-Theory, the theory about the JN-object (this text), uses logical rules to help us understand the JN-Object. But JN-object itself does not follow logical rules, once there are no laws it must obey. Nevertheless, I do not believe we will let possibilities to JN-object escape if we analyze it according to classic logic. However, we must be aware that this logical analysis (JN-Theory) could maybe limit some potentiality of JN-Object.

Within a system without premises, we cannot conclude that something cannot happen. There are no laws from which we can draw this conclusion. That is, there is no prohibition for anything to happen. If there is no prohibition for anything to happen, then, eventually, something may happen. That is, the tautological logics remain true in a system without premises: “something happens or not”. If something occasionally

happens, this something must not obey rules and, therefore, would be totally random and unpredictable.

[All of this may sound really weird, and it actually is. But I can put clear evidence that JN is not an absurd: first, go search the following on a search engine on the Internet: “virtual particles” or singular “virtual particle”. Virtual particles occur in our universe as spontaneous creation from the quantum vacuum, from one particle and its anti-particle. Science considers the generation of this pair of particles an event without physical causes, something genuinely random. This is a scientific fact and can be explained by quantum mechanics. Now, let us move a bit from the facts and imagine each one of these particles contains a tiny miniature universe. That way, in this mental experience, we have a clue, a little evidence that the emergence of a universe out of nothing is so out of purpose as we could once believe...]

We call the first JN randomizations *Schizo-Creations*. This *schizo-creations*, once they come from something without laws, are totally random and, if we could watch them, they would seem completely “schizophrenic”. Of course with the first randomizations, JN is no longer the original JN as now it owns something, that is, the JN transforms. Because JN is not limited by any laws, it may eventually also generate laws, to which its elements - now itself – would have to obey.

Let us show how the random generation of laws can produce a logical universe: suppose laws are generated randomly in a sequence. If a new law is generated and does not conflict with the others, all of them remain undamaged in the set of generated laws. However, if a law that conflicts with other laws previously generated appears, it replaces (kills) the previous laws that are inconsistent with it, since it must be obeyed (until a newer law opposes to it). Thus, in a true “natural selection” of laws, only a little set of laws compatible to each other would last. That answers a fundamental philosophical question about our universe: “Why does the universe follow logical rules?”

Thereby, the Jocaxian Nothingness is the natural candidate for the origin of the universe, since it is the simplest possible state nature could present: a state of such simplicity there would not be the need to explain its existence. And, by logical consequence of this state, anything could be (or not) randomized, even our physical laws and elementary particles.

Frequently Asked Question regarding Jocaxian Nothingness

1- *What is Jocaxian Nothingness (NJ)?*

A: The NJ, different from nonexistent, is something (being) which presents the following properties:

P1-There's no physical elements from any nature (matter, space or energy).

P2-There's no type of law.

2- Does NJ exist?

A: We could say that NJ exists if something has NJ' properties (P1 or P2 mentioned above). Currently, NJ doesn't exist anymore, but it may have existed in a remote past, before Big-Bang.

3- Does NJ is a "being"?

A: Yes. Once it has properties, it may exist to be the receptor of these properties.

4-The "Jocaxian Nothingness" has no rules or laws, but would it be a rule?

A: No. A rule, somehow, establishes a way of restriction. Example: 'my car needs be red' is a rule, but "my car is red" is not a rule, but a car STATE. Eventually, it can be painted of blue and its color has been changed. To establish that the nature state in which there's no rule is designated as "Jocaxian Nothingness", which is not a rule to be followed, but a possible state of nature, which can be changed (or not).

5-But to say that everything can happen is not a rule, an imposition to "Jocaxian Nothingness"?

A. It would be. But if you review the text, I highlight that, out of nowhere, Jocaxian nothingness can happen or NOT, and this is not a rule, but a logical TAUTOLOGY- an absolutely truth under any circumstance or setting. This implies that "Jocaxian nothingness", like everything, follows a tautology (an absolute truth), not a rule.

6-"Jocaxian Nothingness" have neither physical elements nor rules, but does it have any POWER?

A. If we name "power" as a possibility of transformation, the answer is yes. But, we should remember that possibility doesn't mean sureness and, eventually, it would never become or generate a thing or any other thing.

7-Could the Trivial Nothingness, where nothing can happen, be more likely than "NJ"?

A. No. The nothingness that people generally imagine, and I named as "trivial nothingness" (NT), is infinitely more likely to occur as the origin of the universe than NJ. This happens because "trivial nothingness" has COUNTLESS rules to be followed. Example: it could neither generate fields, nor space, nor a chair, nor the physical laws, nor the gods, nor the big bang, nor the life, nor the particles, and so on.

8-Does "Nonexistent Nothingness" is more "pure" than NJ?

A. The "Nonexistent Nothingness" (NI) is a "nothingness" where there is nothing, either itself! So, it is intrinsically contradictory, because if it doesn't exist, it could not have properties, but he *has* properties of having nothing, it should exist. So, if "NI" exists, it could not be nonexistent, and if it is nonexistent, it can't exist. It's something contradictory, and, for this reason, it wasn't used as cosmos generator.

9- What is the difference between "Universe" and "Cosmos"?

A. Universe is a set of everything which exists. So, for every possibility of "Bubble universe" or "Multi-universe" is, actually, part of the same Universe. So, it's more correct to name each one of it as "Bubble universe" or "bubble-cosmos". So, a cosmos would be a region of universe followed by its own physical rules, alone and without interconnection with other cosmos.

10-Does NJ is a Universe or has originated the Universe?

A. Strictly speaking, by definition of the Universe, as a set of everything which exists, NJ would be the universe itself. We could say the universe at its “minimal” state, the simplest possible state. So, NJ couldn’t originate the universe, because it is the universe itself, where time doesn’t exist. Then, it could have randomized one or more cosmos.

11- So, wouldn’t NJ is limited to our logical? Could it be illogical?

A: We should notice there are two concepts regarding Jocaxian Nothingness, which are interconnected: Jocaxian Nothingness Object (NJ-Object) and Theories regarding this NJ-Object (NJ-Theory). The NJ-Object is designated as something with properties regarding NJ (P1 and P2) described above. The theory regarding NJ (NJ-Theory) is a theory based on logic, which explains how NJ-Object can randomize our cosmos. You can argue if NJ-Object doesn’t have laws, so, it won’t need to obey this logic, and this, indeed, is correct. However, when we are analyzing NJ-Object with our classical logic, we aren’t including new possibilities regarding NJ-Object, but on the contrary: in fact, we can limit our possibilities of NJ-Object, which means, maybe, it can be even more “totipotent” than we can imagine.

12- When NJ is randomizing something, it is not a NJ anymore, and it could lose its capacity of randomization?

A: The NJ randomization is named “schizo-creations”. The Universe was in NJ form. The first NJ schizo-creation makes the NJ not being NJ because, now, the universe has, at least, one element: its first schizo-creation. If this first schizo-creation is not a law which prevents the randomization of other things, for example, a law which turns something into “nothingness-trivial”; so, this schizo-creation, which is the evolved NJ (NJE), could be, eventually, generating its schizo-creations. Only the generation of laws which restrict the own generation of laws could avoid new schizo-creations.

13- Could we isolate a part of cosmos and transform it into a NJ?

A: Hardly. Once our cosmos has been already “bathed” by physical laws to create a NJ, we have to eliminate all physical laws of that region. No one knows if that would be possible and how this could be done.

14-For a natural selection of laws, shouldn’t the laws be ordered temporally, i.e., the time would no longer have to be a prerequisite?

A: If it is required to have some “time law” or the “time” itself to ordinate laws which are not randomized by NJ, so, this couldn’t be a trouble. It would just “wait” that one of the “schizo-creations” be a temporal law. From then, the new laws would be ordained and would pass for “natural selection”.

15-Which are the evidences that our cosmos comes from a NJ?

A: The evidences would be a logical universe, where there were no physical contradictions among the elements of this universe.

References

1. Occam's razor

http://simple.wikipedia.org/wiki/Occam%27s_razor

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THE DECREASING UNIVERSE AND THE END OF THE DARK ENERGY

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Abstract: *We will make a new approach for an effect known as “Dark Energy” by an effect on gravitational field.[1]*

In an accelerated rocket, the dimensions of space towards movement due to ‘Lorentz Contraction’ are on continuous reduction. Using the equivalence principle, we presume that in the gravitational field, the same thing would happen. In this implicates in ‘dark energy effect’. The calculi show that in a 7%-contraction for each billion years would explain our observation of galaxies in accelerated separation.

Keywords: Dark Energy, Lorentz Contraction, Gravitation, Universe.

1. An accelerated rocket and its continuous contraction

If we think of an accelerated increasing speed rocket, its length towards movement – compared to an inertial reference - will be smaller, and 'rule' within the nave will decrease continuously compared to this observer.

We would think of 'equivalence principle' to justify that gravitational field would have the same effect on 'rules' (measuring instruments) as an accelerated rocket would do within the nave, but, now, towards all gravitational field and not, in the case of rocket, only at acceleration speed.

I.e., the gravitational field would make that all rules within this field would be continuously smaller regarded to an observer outside of gravitational field and this would make, as we can see, these observers see things out of field be away fastly.

2. Lorentz Contraction

If we apply the equivalence principle in the gravitational field (as the rocket accelerated) there will be a contraction of the space around it (including everything within). Using this, we can explain, as discussed below, the accelerated separation from galaxy through this contraction without postulating 'dark energy'.

The contraction of space made by gravity would cause a kind of 'illusion of optic', seem like, as presented below, that galaxies depart fastly.

The contraction of space would be equivalent to relativistic effect which occurs in a special nave in high-speed L.M.: With regard to an observer in an inertial referential stopped compared to a nave, the observer and everything is on it, including own nave, has its dimension contracted towards to movement of nave compared to a stopped observer (Lorentz Contraction).

This means that the 'rule' (measuring instruments) within the nave is smaller than the observer outside of moving nave.

The consequence is, with this 'reduced rule', this moving observer would measure things bigger than the observer would measure out of nave.

1. The "dark energy" through gravitational contraction:

Let's think what would happen if a light emitted by a star from a distant galaxy would arrive into our planet:

Our galaxy, as well as distant galaxies, would be in continuous contraction, as seen before, due to gravity.

A photon emitted by a star from this distant galaxy, after leaving its galaxy, would go through by an "empty" big space, without so much gravitational influence, until finally arrives into our galaxy and, lastly, to our planet.

During this long coursed way (sometimes billion years), this photon would suffer few gravitational effect and its wavelength would be little affected.

However, during this period, our system (our rules) would still decreasing due to gravitational field, and when this photon finally arrives here, we would measure its wavelength with a reduced 'rule' compared to what we had had at the moment when this photon was emitted from galaxy.

So, in our measurement would verify if this photon had suffered Redshift because, with reduced rule, we would measure a wavelength longer than those was measured. The traditional explanation is "Shift for Red" happened due to Doppler Effect compared to galaxy separation speed!

2. End of Dark Energy

Farthest a galaxy is from viewpoint, more time this light will take to arrive us and more shrunken our 'rule' will be to measure this photon since it had been emitted; so it would be bigger than wavelength, which would induce us to think of faster galaxy separation speed.

This acceleration (this new explanation, only visible) from distant galaxies took astronomers to postulate the existence of a "Dark Energy" would have a repulsive effect, seems like they are getting away faster.

But if acceleration is due to our own scale reduction, this dark energy wouldn't be necessary anymore, because what makes this separation accelerated is, actually, our own special contraction. This would be the end of dark energy.

3. Some estimation

Find below a numeral (not relativistic) estimation to estimate the contraction rate effect of our earthling system due to Redshift.

If F_0 is the light frequency of a star which is getting away with V speed from an observer, so the frequency F that this observer realizes that this frequency is given by the following non-relativistic formula (c = light speed):

$$F = F_0 * (1 - V/c) \quad (1)$$

But if L is wavelength, F its frequency and c its speed, we have:

$$L * F = c \quad (2)$$

If L is observed wavelength and L_0 is wavelength at source, from (1) and (2), we have:

$$L = L_0 / (1 - V/c) \quad (3)$$

Now, let's suppose that separation speed of observed galaxy follows Hubble formula (where d is the galaxy's distance from us):

$$V = H * d \quad (4)$$

So, from (3) and (4), we have:

$$L = L_0 / (1 - H*d/c) \quad (5)$$

Now, if we detect two wavelengths L_1 and L_2 from two distant galaxies d_1 and d_2 from Earth ($d_2 > d_1$) which issue lights in the same wavelength L_0 , we can estimate the reduction on dimension rate "Fx", by an unit of time, in the date where measures were taken:

$$Tx = (L_2 - L_1)/L_1 / T \quad (6)$$

T_x is reduction rate by time unit, L_2 and L_1 are observed wavelength and T is the extra time which light delays according to the second galaxy compared to the first one to arrive at our planet.

Normally the character Z (redshift) [4] is designated to the factor $(L_2 - L_1)/L_1$:

$$Z = (L_2 - L_1)/L_1 \quad (7)$$

$$T = (d_2 - d_1) / c \quad (8)$$

From (7) and (8), we have:

$$Tx = Z * c / (d_2 - d_1) \quad (9)$$

But we are using (4) and taking redshifts from each galaxy alone:

$$Z_1 = (L_1 - L)/L \text{ and } Z_2 = (L_2 - L)/L \quad (10)$$

We have:

$$Tx = [(Z_2 - Z_1)/(Z_1 + 1)] * H * c / (V_2 - V_1) \quad (11)$$

We can take our own galaxy as standard and simplify the formula above as redshift of our own galaxy is zero:

$$T_x = Z * H * c / V \text{ (12)}$$

Or in distances

$$T_x = Z * c / d \text{ (13)}$$

Where:

Z is redshift of galaxy

H is Hubble constant

d is the galaxy's distance

V the apparent separation galaxy speed

c is light speed.

Let's use formula (13) and cosmological table data [5] for galaxy NGC3034 and calculate the real compression rate. For this galaxy:

It's interesting to note that Z/d shall be constant which reflects the real compression rate of our coordinated system!!

$$T_x = 0.000677 * 3E05 / (2.72 * 3E19) = 2.5E-18/s$$

To this per-second reduction rate, in one million years, the compression would be:

$$T_x * 1 \text{ million years} = 2.5E-18 * 3E13 = 0.007\%$$

I.e.: 7% of contraction every 1 billion year.

References

[1] Part of this theory is in the Comment at the Nature's blog:
<http://blogs.nature.com/news/2013/09/dark-energy-survey-launches.html>

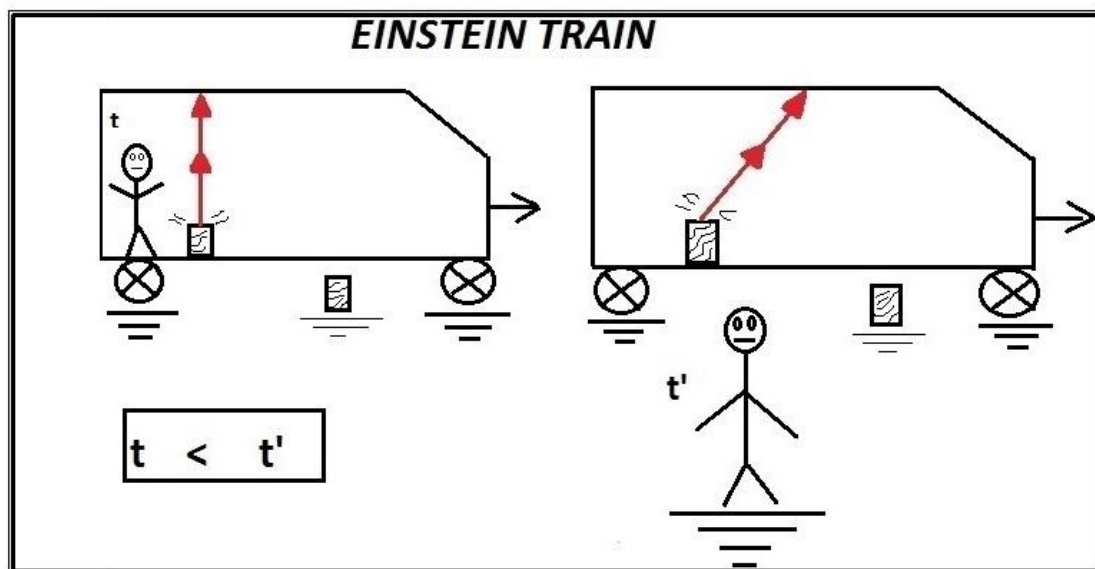
The Jocaxian's Train

Joao Carlos Holland de Barcellos(*)

Summary: *This article presents two simple and analog situations related to classic mental experience known as "Einstein's Train", which explains the temporal dilatation regarding special relativity theory, and then it points a logical contradiction between them.*

Einstein's Train

This experiment is common to every student of relative theory restricted to mental experience which shows temporal dilatation which occurs when invariance of measurement of light speed is postulated[1,2,3,4].



Picture 1

As we can see with these classic examples (pic above), the observers who see flash of light going back and forth to its referential point, i.e., when source of light is standing regarding itself (at these examples, the observer who is at the wagon where light source is found as well), he calculates a lower time for the path of light than it's calculated from observer who sees the light making a longer path (observer at the station).

For this reason you can say that observer's watch whose source of light is standing regarding him (in the wagon) walks slower than the observer's watch of the station, who sees moving source of light within the wagon, measuring, then, a bigger path of light. So, in order to have the same light speed ($=c$), the time must be also higher for observer who measures a bigger path of light.

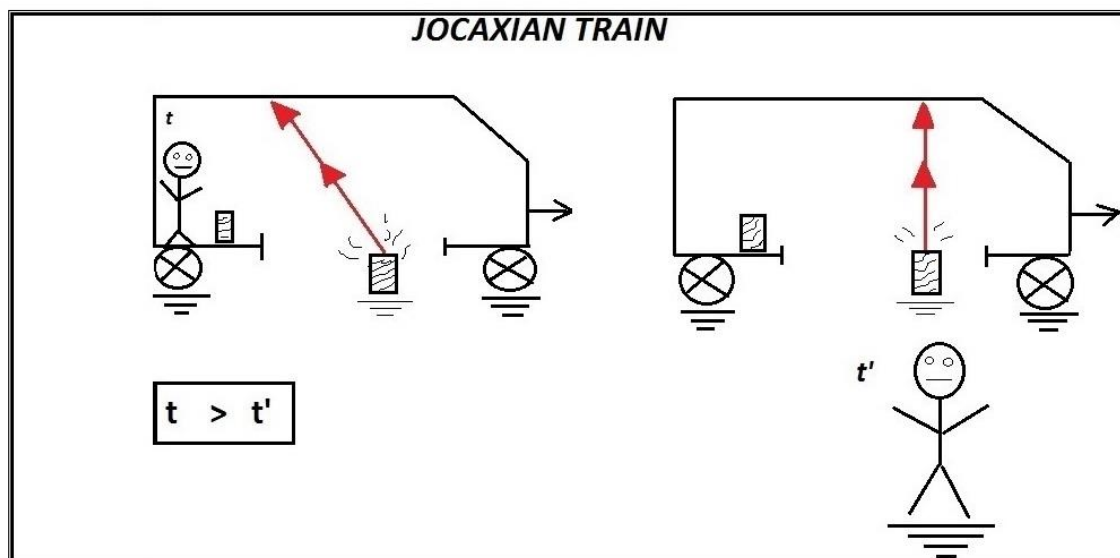
This phenomenon is known as "temporal dilatation". So, the person who sees the light making a smaller path experiences "temporal

dilatation" - at our example, the person who is within the train in movement - with light source standing regarded itself.

Very didactic and simple. Then, "Jocaxian's Train" arises.

Jocaxian's Train

Jocaxian's train (JT) is nothing more than the old "Einstein's Train" with a hole on the ground! We also added a source of light on the station floor close to the rails (the same source of light of the train of the previous example (see pic below)).



Picture 2

When the train moves, the source of light, standing at the station floor, issues a flash, which passes by the hole on the train floor and enters in the moving train, which reflects on mirrored ceiling and gets back to the flashlight which emitted the beam on the ground.

I.e., as JT moves, the light enters on the hole placed at the ceiling of train and gets back to the flashlight, a back and forth similar to the Einstein Train, but now, who is on the station, outside of the wagon, is the person who sees the light going back and forth to the same path (the shortest path!).

The observer who is on the moving train sees the flash of light making a longer path as part of a "triangle". I.e., at this JT, who is on moving train sees a "bigger" path of the flash of the light than the observer standing at the station.

So, as the two observers shall measure the same speed for the light, the time, within this JT concept, passes faster for observer who is on the station and sees the light making a shorter path!

So, in this case, the observer on the station, who is out of the train, experiences temporal dilatation.

I.e., the time passes faster for the observer in the moving train: the person who sees the light making a longer path.

Paradox

So, this mental experience shows we have a paradox in the restricted relativity, because the same physical train and the same observers experience a temporal dilatation which depends on where the light comes from, whether it comes from the train (when the source is going to the train) or outside of it (when the source is standing at the station).

References:

- [1]- Derivation of Einstein's Time Dilation Equation
<https://www.youtube.com/watch?v=M3Qn4AnaSIc>

- [2]-Derivation of Time Dilation in Special Relativity using a Light Clock
<https://www.youtube.com/watch?v=p2nwdS3ia24>

- [3]- Time Dilation, Train Goes Through a Station
https://www.youtube.com/watch?v=l_QoEUmwVPU

- [4]- Special Relativity: 5 - Time Dilation
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Expanded Science

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“If truth were not the objective of philosophy, the Grimm brothers would have been the biggest philosophers in the world” (Jocax)

Abstract: *initially, in this article, we present the foundation on which current science stands. Next, we explain the main stream of modern science, the “Popperian Falsificationism”, and show why the current criticism to the system is flawed. Later, we will prove that the “falsificationism” is logically inconsistent and we will propose a new concept of science, unifying it with philosophy.*

1- *The objective of Science*

Science has truth as its only objective. This objective is essential to any tentative of classification in science.

2- *Basic Postulates of Science.*

2.1- *Compatibility with the Facts*

The Truth in science can be defined as “all information compatible with reality”. The term “compatible with reality”, in our definition of truth, must be understood as “according to the facts”, never in contradiction to them. This way, “compatibility with the facts” provides the empirical feature of science, as it links the scientific truth to the reality of the facts.

2.2 – *The Universe is Logical*

Likewise, we must also take the fact that our universe is logical as a scientific postulate. That is, the universe – defined as the set of all that exists – does not present logical contradictions between its element and laws. It must, therefore, follow the classical logic (aristotelic). Such an assumption is important because no illogical events have ever been verified in the universe. Secondly, if contradiction was allowed, science would be “trivialized”, that is, every kind of affirmation would be true, even if it was absurd, since a logical system with incompatible premises necessarily implies that any proposition is true. In the appendix ‘A’, at the end of this text, we prove that the proposition “the universe does not exist” can be logically derived from a logical system that presents contradictory premises. Some usual definitions of science can be found in the appendix ‘B’.

3- *The scientific method*

The set of rules with which science seeks knowledge (information considered ‘true’ or highly reliable) is what we usually call “Scientific Method”.

3.1-"The Deductive Method"

The deductive method comes from the assumption that the universe is logical, so the logical inferences can be applied to scientific theories in order to extract other theories which, by logical consequence, should also have the same degree of reliability. The basis of the deductive method is the logical syllogism known as "modus ponens" [8]:

$H \Rightarrow D$ (If "H" implies "D")
 H (and "H" happens, i.e. H is true)
 $\Rightarrow D$ (We can conclude that "D" will also happen)

This rule can be summarized in the following tautological formula:

$((H \Rightarrow D) \wedge H) \Rightarrow D$
 (If "H" implies "D" and "H" happens, we can conclude "D").

Example: "If all geese are white" and my aunt has a goose, I can conclude that it is white. Thus, from the general theory H: "all geese are white", we can extract the particular theory D, "my aunt's goose is white."

3.2-"The Hypothetical Deductive Method"

One of the most important rules of the scientific method, "The Hypothetical-Deductive Method" is based on the logical tautology known as "Modus Tollens" [7]:

$H \Rightarrow D$ (If "H" implies "D")
 $\sim D$ (and "D" does not happen, i.e. D is false)
 $\Rightarrow H \sim$ (We can conclude that "H" did not happen)

And it can be summarized in the following formula:

$((H \Rightarrow D) \wedge (\sim D)) \Rightarrow \sim H$

(If "H" implies "D" and "D" did not happen, we can conclude that "H" did not happen).

Which can be interpreted as follows: "If 'H' implies 'D', and 'D' is false, we can conclude that 'H' is false."

As an example: If "all geese are white", it implies that my aunt's goose should be white, but, in fact, my aunt has a red goose, so I can conclude that 'all geese are white' is a false theory.

Thus, in order to investigate a theory "H" under the conditions in which this theory implies the consequence "D" , if this consequence is not verified, that is, if the conditions where H is true the consequence "D" is not true, we can conclude, logically, that the theory "H" is not true (it is refuted). This is an important result since it becomes unnecessary to investigate directly theory "H"; investigating its consequences ("D") to conclude about "H" should be enough. Of course, if "D" is observed we cannot conclude that "H" is correct, but "H" will be "stronger", that is, with a higher degree of reliability, having passed the test.

It is important to note that the scientific methodology comes directly from the postulate that the universe behaves logically. If it were not so, neither the hypothetical-deductive nor the deductive method could be justified.

The "Inductive Method", or simply induction, is not strictly considered part of the scientific methodology, as it goes from particular events, or samples, to derive general theories. Thus, we can never claim that what came from an induction is true simply because it came from an induction. For example: "All geese I have seen in my life are white, then, can I conclude that all geese are white?" We cannot. "The sun comes out every day since mankind exists. Can I conclude that this will happen forever?" We also cannot.

Nevertheless, we cannot put the "inductive method" in the ostracism because, although not very reliable, it provides us with important clues to connect our mind to reality. No scientific theory would have been discovered without induction. What are the scientific observation and the empiricism if not an inductive method to get to hypotheses of a general nature?

If we do not understand the "inductive method" as a criterion for evidence of scientific theories, but as a method to provide hypotheses for theories or ideas, it can be considered valid and very precious. Isaac Newton, for example, would not have discovered the law of gravity if he had not seen the attraction of matter. Einstein would not have created General Relativity if there were not experiments showing that the speed of light was constant.

4-The Origin of Scientific Theories

It is important to note that science does not make any restriction on the origin of scientific hypotheses or theories. [We will consider, in this text, hypotheses and theories as synonyms. In general, a theory begins as a hypothesis, and after several tests, if it manages to pass unscathed, it receives the 'status' of scientific theory. However, a 'brand new' hypothesis can be true while a very old theory can be false (do you remember the theory about the Earth being the center of the universe?). This way, with all the logical and scientific rigour, a theory is not necessarily more valid than a hypothesis. New theories can be achieved through induction (which is the most used method), but they can also be achieved through pure imagination, or even dreams [9]. There are no restrictions to create hypothesis. The theories are not refuted by looking at their origins, but at their consequences.

5-Pseudo-Sciences

There are no restrictions about the origin of scientific hypotheses. A priori, No hypothesis or theory can be discarded only because it was produced from induction or empirical observations. Although this scientific freedom of creating hypotheses can be enriching, since no one is prohibited from creating new and revolutionary scientific theories, it causes, in a terrible contrast, abundance of illogical and absurd theories and hypotheses that reclaim the status of scientific theory: they are the famous "pseudo-sciences."

6-Popper and the Falsifiability Criterion

The postulates and scientific methods described herein are adopted, if not explicitly, at least implicitly, by nearly all scientists and philosophers in science. However, they are yet not sufficient to accurately delimit what is scientific and what is not, or to separate science from pseudo-science.

We will take, as an illustrative example, the "Green Imp Theory" (GIT): "There is always a 'green devil' hovering over each person's shoulder, but whenever someone tries to look at it, or makes any attempt to detect it or record it somehow, it will get invisible and undetectable. " This example proposes a theory that does not go against any scientific postulate and is not inherently inconsistent, what could be enough reason to reject it, but nevertheless, we are unable to test this theory. So what do we do?

The first philosopher who tried to clearly demarcate what is science and what is not was Karl Popper (7/28/1902-9/17/1994) [1]. Popper delimited science by adding the following criteria to it [10]:

- 1-No scientific theory can be proved true.*
- 2-A scientific theory can only be proved false.*
- 3-A theory which cannot be refuted is not a scientific theory.*

Thus, with this new set of postulates, Popper introduced the 'falsifiability' (or 'refutability') as the main criterion of distinction between scientific and unscientific theories. The 'refutability' of a theory means that, in principle, the theory is liable to be distorted and thus be or not refuted (Modus-Tollens would be a way to refute a theory). For example, when analyzing the case of our 'Green Imp Theory (GIT) above, we now realize it is not a scientific theory, since it is a theory that cannot be distorted neither directly or indirectly; therefore, it is not refutable and cannot be a scientific theory.

It is important to reinforce the idea that there is no "confirmation" of a scientific theory. If a theory passes the tests, it is said that the theory was corroborated by the tests; never confirmed by them (in the sense that it has been proved true). When a theory is corroborated, it only gains reliability, because by the criterion (1) above, no theory can be considered true:

"The science method consists of daring ingenious conjectures followed by rigorous attempts to falsify them." Only the aptest theories survive. It is impossible to legitimately say that a theory is true; one can say with optimism that it is the best available, better than the ones that already exist "[3]

In spite of the "popperian" ingenuity about delimiting science, the criticism was abundant.

6.1-Critique and Defenses on the 'Popperian Falsificationism'

The main criticism to the "Popperian falsificationism" is that the tested theory is always inside an environment which conditions cannot always be fully controlled or evaluated. Thus, there can be a "false negative" in relation to its validation, and the theory can be prematurely discarded. For example, suppose we want to test the theory "All geese are white" and for that, we try to refute it by observing with binoculars, cameras and other

observation paraphernalia, several geese spread over the world. Finally, an observer is able to shoot from far away, a brown goose flying along with his flock of white geese. Now that he has this evidence, it is possible for him to refute the theory. But what if the goose was only dirty with earth? Would we be prematurely dismissing a true theory?

This critique to the "Popperian falsificationism" is valid; however, it can be easily refuted with the following argument: if this theory was unfairly distorted by a misled or even fraudulent observation, this observation did not really act as a refutation of the theory. A false refutation is not a refutation. Likewise, we cannot invalidate the justice system simply because someone can present false evidence to condemn or acquit a defendant. If the rebuttal example is not valid, and the theory is unfairly rejected, this, as a single element, does not diminish the merit of the falsificationist criterion; it only states that we must be very careful with the tests and, moreover, it will always be possible to try to refute your own rebuttal. That being done, the theory can be "reborn" and reconsidered valid. If not, it should remain in the limbo of refuted theories waiting for a possible counter-rebuttal that might come in the future, if ever.

A second type of criticism, also widely used, is that "falsificationism" does not follow what the history of science has shown. If we analyze the evolution of science from its historical development, we will not find the rationality that Popper tries to impose to it. But this critique does not make any rational sense, because this would be like saying we should not create remedies in laboratories because if we study human evolution, mankind has always survived and evolved without any medicine. It is not rational to claim that we should keep a certain *modus operandi* simply because in the past it has always been so. However, despite the criticism to Popper is subject to refutation, there is in fact, as we will see next, a logical inconsistency in the "Popperian" criteria. And that is fatal to science and also to the "popperianism".

6.2 Refuting Popper

Although the historical criticism to the popperian "falsificationism" is refutable, since they do not really affect the falsificationist process logic, the postulates introduced by Popper are actually inconsistent. And the internal inconsistency in science is simply fatal. In order to prove that, we will consider the first two criteria proposed by Popper to demarcate a scientific theory:

- i) No scientific theory can be proved true (confirmed).*
- ii) A scientific theory can only be proved false.*

Taking the basic postulate that science seeks truth and not necessarily the usefulness in the theories, even because the "usefulness" of a theory is subjective, we should take the

postulate (i) not as a condition for a theory to be scientific, but as an impossibility of proving it true.

If we interpreted the postulate (i) as a condition for a theory to be scientific, many theories that could be proved true would be considered anti-scientific in spite of science seeking the truth! That would be a complete nonsense. Therefore, we must interpret the postulate (i) not as a condition to which theories must obey to be considered scientific, but as an impossibility of being sure of what the ultimate essence of reality is. We cannot, for example, even prove that solipsism [14] is false: any information that reaches our consciousness could be only an imagination of a reality that actually does not exist. Could anyone, for example, prove we are not dreaming?

We do not need, however, to reach the limits of epistemology to understand why we cannot be absolutely sure of the veracity of a scientific theory: It is impossible to know whether we have, in fact, knowledge of every possible condition that influences the applicability of a theory. Without making these conditions explicit, the theory may not be valid in certain contexts in which the conditions cannot be verified. As an example, consider the theory "water boils at 100 degrees Celsius." This theory is valid only under conditions of adequate pressure (1 atm), otherwise it is false. Thus, a more correct theory would be: "Water boils at 100 degrees Celsius at 1 atm pressure." Do we have now all the necessary conditions? What if water is composed mostly of heavy hydrogen atoms (deuterium)?

Let us now change focus and show the inconsistency of the criteria (i) and (ii):

Consider the following theory: "This shoe box contains a frog."

This theory is not very useful but, for now, we are not concerned about the usefulness of theories, we are concerned about its veracity. If we open the shoe box and find a frog, what can we say? Can we consider the theory true? Would that refute Popper's postulate (i)? These matters are not trivial, since it is possible to say that what we see is not a frog but a toad, or that it could be an optical illusion or even a dream and therefore, we cannot claim that the box contains a frog or that the box exists. Indeed, these philosophical claims can keep the criterion (i) unharmed; however it contradicts the rule (ii) "A scientific theory can only be proved false". If not, see:

If a theory can be proven false, then it is also true that its contradiction can be proven true.

At the very same time a theory is proved false, the theory that denies it is being proved true. Here, the sense of the word "prove" has the same connotation as to prove a theory false or true. As an illustration, consider, for example, theory A: "All geese are white."

If we can prove this theory false by presenting, for example, a red goose, we will be at the same time proving that theory B "Not all geese are white" is true!

However, if we philosophically accept the fact (i) to be true, that is, if we admit that we cannot be sure about the ultimate truth of reality, then, strictly speaking, we can never say that a theory can be proved false, because if a theory "T" can be proved false, the opposite theory "Non-T" (denial of "T") can be proved true, that is, we would have the theory "Non-T" as an absolute truth. Anyhow, we conclude that the "Popperian falsificationism" is intrinsically contradictory, and that makes it easier for a new theory about science to be elaborated.

7 - "Expanded Science " or "Ocanian Science "

Science, just like philosophy, seeks the truth. It is then natural that they are unified, and this project aims to redefine science and unify it with philosophy in a knowledge area I called "Expanded Science" or "Ocanian Science".

As truth is the only goal of the "Expanded Science"(ES), it should not be restricted to the empirical sciences, although these are also part of the EC. However, the truth in the ES means all information compatible with reality, where reality is the set of events that happens or have happened. Propositions built on systems disconnected from reality do not matter to the ES.

If we take the words 'theory', 'hypothesis' or 'proposition' as synonyms, we can establish the following criteria to define the "Expanded Science, "Ocanian Science " or simply Science:

(i)-Only the propositions directly or indirectly linked to reality are objects of analysis for the Expanded Science .

(ii)-The propositions that most fit the "Occam's Razor" should be considered closer to reality than the others.

These two criteria compose the foundation of this new science. The criterion (i) intends to distinguish what is part of the expanded science and what is not. Criterion (ii) intends to classify the propositions in relation to their degree of veracity, that is, we must believe the best "ranked" theories are closer to reality than those that do not fulfill the *Occam's Razor* criteria.

We can observe that there is no longer the criterion of distortion, precisely because, strictly speaking, we cannot prove anything in terms of absolute truth (that is implicit in

the criterion (ii)), and of course, we cannot even prove that something is false. Nevertheless, we can give a new meaning to the words "Proof" or "Rebuttal" if we understand them as related to the Occam's Razor.

Take the following illustrative example:

We find a shoe box and we notice there is a brick inside. What can we say about the theory: "Inside this box there is a brick"?

When we look inside, and notice a brick, would that be perfect evidence of its absolute truth? Incredible as it may seem, no! Actually, there are innumerable hypotheses which in principle could be true and would deny the proposition that inside that box there is a brick. We will consider some of them:

- The volume was actually of a battery radio imitating a brick.
- The volume was something that resembled a brick, but it was not a brick.
- That was not a brick because you are in a dream, imagining it.
- A momentary short circuit in your brain made you imagine a brick in an empty box.
- A new weapon with alpha waves was tested on you so you would imagine the brick.
- Someone created a holographic image of the brick so that you would think it was real.
- There are no bricks, since this universe is an imagination of a great consciousness.
- Etc.

Thus, we cannot undoubtedly prove that any statement about reality, as obvious as it may seem, is in fact, reality. However, by the criteria of the "Ocanian Science", we can use the Occam's Razor and give preference to the more plausible theories in terms of the "razor" and, that way, consider the proposition "the shoe box contains a brick" as the most appropriate of them, the closest to reality.

It is interesting to note that the "theory of the green imp" (TGI) cited at the beginning of this essay, which previously could not be approached by the Popperian science, since it could not be tested or falsified, now can be easily approached by the "expanded science": the theory of the green imp must be considered less true in relation to the theory that there is no such imp, since the latter is more appropriate in terms of the Occam's Razor.

7.1- Some considerations on the "Occam's Razor"

The "Occam's Razor" establishes that we should not put unnecessary hypotheses in a theory. The term "unnecessary" is the key of the Occam's Razor: If we can explain a fact with fewer hypotheses, then it must be done. Extra hypothesis must be discarded. If several theories explain the same phenomena, we should give preference to the theory

with the smaller subset of hypotheses. It is possible to show that the accretion of unnecessary hypothesis to a theory makes it become less likely to be true [11]. Thus, we can understand the Occam's Razor as a criterion of classification of the most likely theories. The theories that suit the Occam's Razor the most are more likely to be true.

Many refer to the Occam's Razor as the "simplicity" criterion, but this is dangerous. The "simplicity" in Occam's razor does not refer to what is simplest to understand, but to what is most likely to happen. For example: for some, saying that life on Earth was promoted by aliens may be much easier to understand than an explanation that uses random and unlikely shocks of molecules, but not more likely to happen, since the alien hypothesis would imply that it would be also necessary to explain the origin of these aliens' life added to explanations on how they would have acquired technology enough to get to our planet..That is, the apparent "simplicity" of the hypotheses of life being planted on Earth by aliens, contains, in fact, the complexity of the origin of extraterrestrial life, added to the complexity of an evolution faster than ours.

7.2-The Role of Evidence and the Classificatory List

We can define evidence as a fact in favor of a theory, as an event that corroborates a theory. Obviously, a piece of evidence may eventually also corroborate rival theories. A white goose, for example, may corroborate the theory "all geese are not black" as well as the theory "all geese are not red." The more restrictive the evidence, in the sense of not corroborating rival theories, the lower the chances of the rival theories being true and the higher the chances of the theory corroborated by the evidence being true. If, for example, we notice a brick inside a shoebox, this brick corroborates the theory "a shoe box is not empty" much more than the theory "the shoe box is empty", since the extra hypothesis needed for the box to be really empty, while we notice a brick inside, are quite unlikely (although they may be true). Note that there is no longer an explicit rebuttal of the theories that were not corroborated by evidence; they are only moved to the end of the "Classificatory List" of the theories more likely to be true. Nevertheless, we can still use the word "rebuttal" or "distortion", if we understand them in a relative meaning, that is, a theory refuted by evidence is just a theory less likely to be true.

7.3-The Role of Logic and Scientific Methodology

All the evidence we have since we understand ourselves as human beings indicates that the universe follows the Aristotelian logic. Thus, if any theory, hypothesis, or proposition violates the logic, it will be going against this enormous and extraordinary "history of evidence" and should therefore be placed in the last positions in the "Classificatory List ". In practice, this is equivalent to a rebuttal. However, we can

maintain the word "REFUTE" not in the absolute sense of the word - rejecting a theory forever - but to understand it as highly unlikely to be true. Therefore, we must consider our logical Universe the largest set of evidence we have, and then we can continue to use the Deductive Method (3.1) and Hypothetical Deductive Method (3.2) in the same way we were using before, except that the conclusions we reach cannot be considered absolute truths (simply because the premises used in the methods also cannot be considered absolute truths).

7.4-The Old Popperian Science

The Popperian criterion (i) "No scientific theory can be proved true" was kept, and is embedded in the criterion (ii) of "The Expanded Science" (ES), as this only refers to the degree of proximity to reality. The "Falsifiability" is clearly disposed in item (i) of the ES, since all propositions related to reality are addressed, not only those that can be falsifiable. However, the popperian "rebuttable evidence" still has a high level of relevance in the ES, precisely because it obliges the theories to put unlikely propositions - thus contradicting the Occam's Razor - in order to be coherent with the observed facts. For example: the theory "the shoe box is empty" needs some unlikely hypothesis to remain valid (as a brain 'short circuit'), if related to the evidence that we observed a brick inside the box. Thus, "rebuttable evidence" is still valid to throw the refuted theory to the last positions in the list of theories that are closer to reality.

7.5-Religions

If we define the universe as the set of all that exists, religions are also objects of the ES, since they refer to aspects of reality. Thus, they are also subject to classification by the Expanded Science, according to the Occam's Razor.

The 7.6- Solipsism

The solipsistic idea is that everything we observe, feel and believe is nothing more than an illusion of some consciousness (I) and, therefore, this reality we observe is false, it does not exist. As solipsism makes references to reality, it is subject to the Expanded Science analysis:

The hypothesis that the universe developed from a few physical laws and a finite amount of elementary particles that led it to produce intelligent life with consciousness requires much less hypothesis (and simpler ones) than those required for the existence of such a being that would be able to imagine and relate every single detail of our imaginary world. Moreover, we would also have to solve the problem of the origin of a being with such complexity [13]. Therefore, by the Occam's Razor, solipsism must be

pretermitted in relation to a universe that is not imagined or virtual. That is, now and not before, we can scientifically "discard" the solipsistic hypothesis.

7.7-The Jocaxian Nothingness

The hypothesis that the universe, including the laws of physics, was generated from the Jocaxian Nothingness (JN) [12] (a nothingness without physical elements or laws) is now considered a scientific hypothesis, since it refers to our reality: the origin of our universe. As the JN is the simplest hypothesis about the origin of the universe that respects the Kalam's Argument [13] ("An infinite time in the past could never lead to our present, since it would take an infinite time" = never), it should be one of the theories that are closest to reality according to the Occam's Razor.

7.8-The Philosophy

As Philosophy seeks the truth dealing with ideas and concepts, ultimately, related to reality, it is also part of the Expanded Science.

Thus, we propose the unification of Science and Philosophy, in this new branch of knowledge: The Expanded Science.

Appendix A

Evidence that contradictory premises imply that any conclusion is true, even that "the universe does not exist":

1) Premise 1: "A" ('A' is true)

2) Premise 2: " $\sim A$ " ('Not A' is true)

But: " $A \wedge (\sim A) \Rightarrow \text{FALSE}$ " ('A and not A imply False', Logical Tautology *)

So, we can conclude from 1 and 2 (by modus ponens):

3) "False" (concluded 'false')

But: "False \Rightarrow Anything" ("False implies X", X is any proposition; it is a Logical Tautology)

Assigning 'X' (or 'Anything') the proposition "the Universe does not exist," We have:

4) "False \Rightarrow The universe does not exist"

From 3 and 4, we can finally conclude by modus ponens:

5) "The universe does not exist"

That is an absurd.

This example shows that from contradictory premises we can prove any absurdity.

(* Tautology is an absolute logical truth; that is, a truth that does not depend on the value of variables.)

Appendix B

Some definitions of science found on the Internet

Science:

- * Rational investigation or study of nature directed to the discovery of the truth.

Such investigation is generally methodical, or according to the scientific method, a process for evaluating empirical knowledge.

- * The organized collection of knowledge acquired through such investigation.

Science is knowledge or a system of knowledge that covers general truths or the operation of general laws especially obtained and tested through scientific method. Scientific knowledge depends upon logic [2].

The scientific method is a set of basic rules for a scientist to develop an experiment in order to produce knowledge, as well as correcting and integrating pre-existing knowledge. It is based on gathering observable, empirical and measurable evidence, based on the use of reason [6].

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Portuguese version: <http://stoa.usp.br/cienciaexpandida/forum/39474.html>

The New Inductivism

João Carlos Holland de Barcellos (jan/2009)

Abstract: Occam's Razor (OR) establishes that one must eliminate "unnecessary" hypothesis from theories. This essay intends to establish some rules that conceptualise the "no-necessity" criterion in OR. A new version of the classic Inductivism is also proposed and later used to solve this problem.

Key-words: Epistemology, Occam's Razor, Philosophy of Science, Science, Inductivism, Logic, "Inductivist Hierarchy", Inductive Method.

1-Introduction

Occam's Razor (OR) [1] is a logical-philosophic criterion used virtually in every knowledge acquisition process as well as in our everyday life.

Succinctly, OR establishes that we must eliminate unnecessary hypothesis from our theories. The criterion by itself is almost a tautology, that is, an absolute logical truth, since the hypothesis understood as unnecessary are by definition not necessary to the theory. That way OR must be considered an incontestable truth. Therefore, the whole problem is not really in OR, but in the criteria concerning the "unnecessity" of the hypothesis.

Let us use some examples to exemplify. Consider the following theories:

1a- For a car to move, it must have fuel.

1b- For a car to move, it must have fuel, and its occupants must pray the "Our Father".

2a- For cough syrup to work the patient must ingest it.

2b- For cough syrup to work the patient must ingest it and, besides that, sing “hula-hula” while turning around for three times.

This way we could include an infinity of other craziest as possible hypothesis in each of our theories.

Similarly, the reader knows he does not have to recite a children’s poem each time he drinks a glass of water in order to avoid pouring water out of the glass. That shows OR is present in our everyday life, even in an imperceptible way.

But how should we know whether a hypothesis is really unnecessary?

How should we know we actually do not have to pray the “Our Father” for the car to move, nor turn around singing the “hula-hula” for some medicine to be effective, or recite a children’s poem so water does not shed from the glass?

Indeed, all these apparently absurd and clearly unnecessary hypothesis given in the examples could be absolutely necessary in some other universe, or even in our own universe since the moment the reader finishes this sentence. That is, we cannot guarantee that the laws of physics have changed and those hypotheses that were before seen as absurd are now totally necessary.

In short, what is the criterion of necessity (or not) of a hypothesis or any theory?

Before we answer to that important question, let us create a new theoretical framework: “The New Inductivism”.

2- The New Inductivism

The main process to connect our minds to the external world and elaborate theories about our universe, that is, the way we acquire knowledge is known as “induction process”.

The induction process, or Inductivism, establishes that experiments, occurrences or events that always have the same results will probably have the same results under the same conditions. And the more times these results repeat, that is, the more favourable observations about the hypothesis or theory are obtained, the more reliable the hypothesis or theory is.

2.1- Hypothesis Formation

Obviously, the simple observation of phenomena repetition does not produce by itself any theory. To exemplify, a monkey can observe some repetitive phenomena for its whole life as “the Sun rises in the East”, and it will not formulate a theory about that.

Therefore, the inductive process does not elaborate finished theories. Instead, it provides us with important clues so that we or some kind of processing can create hypothesis or theories about reality. That way, it is perfectly possible that different people elaborate different theories or hypothesis using the same data obtained from inductive observation.

2.2- First Results

From the inductive process we create the basic hypothesis that our universe is logical, that is, it works logically according to the aristotelic logic. And also, the laws of Physics must be stable. These first results give us the trust that our universe must not have changed its laws so that water would pour out from our glasses if we did not recite some children’s poem!

The Induction process is very criticized by many scientists and science philosophers under the true statement that this process not always produces correct results.

However, that will rarely happen under the “New Inductivism”. There is an inductive hierarchy in the New Inductivism. This hierarchy establishes that new inductive rules must be subordinate to pre-existent inductive rules.

Thus, there is a law hierarchy based on more basic and reliable inductive processes, where some have more power and privilege than others. That way, it is not possible to interrupt an inductive hierarchy without a good reason for that.

So a new inductive rule can only be considered satisfactory if it does not break the hierarchy of stronger inductive rules.

In this manner, the “New Inductivism” can be defined as the classical Inductivism linked to subordination of an inductive hierarchy.

2.3-Inductive Hierarchy

It is possible to create an inductive hierarchy in a decreasing degree of power, in a way that a law with a less elevated level of power must not go against the superior hierarchical levels. Our inductive hierarchy can be defined in a decreasing level of importance in the following way:

- 1- The most basic and powerful inductive rule is that our universe is logical. No illogical event has ever been observed. We can suppose then, by induction, that the universe follows logic. Any theory that goes against this first rule must, in principle, be considered false.
- 2- The laws of Physics form the second class of our inductive hierarchy. Obviously they must not oppose the first level of hierarchy. And, for that reason, the laws of Physics cannot use mathematics, which is totally based on logic. The laws of Physics are created by observation of the most extensive set of observations on regularities of our universe. For that reason, they must be among the most reliable rules built by mankind. The power of these rules resides in the fact that they must be verified, direct or indirectly, in every observable universe and they should not be limited to our planet, nor even to our solar system.

- 3- The laws of Chemistry could form the third level of our hierarchy.
- 4- The laws of Biology, the forth level.
- 5- The other norms, rules or laws must not oppose the theories of the classification above, unless they are exhaustingly verified.

It is possible to notice that *the degree of strength in the inductive hierarchy is based on the extensibility, that is, the quantity of favourable observations in space and time in which the theory approaches in a favourable way.* Inductive rules of short range in space and time have fewer favourable cases than large range ones. For that reason, such rules must be subordinate to the most general ones that had been tested and, because of that, present a greater level of reliability.

2.4- Inductivist Response

Now, with that classification, we can rebut the argument against the inductive principle: “The Sun Rising Argument”. It says that if we use the inductive process about the rising of the Sun every morning we will create a law establishing that:

“Today and always, every 24 hours the sun will rise in the East and set in the West”

However, we can “rebut” (*) this argument by showing that it goes against the inductive principles of the second hierarchy (the laws of Physics), since according to these laws, the hydrogen of the Sun will end in four billion years and our star will explode. That way, one day, unfortunately, the Sun will not rise anymore and therefore this principle cannot be considered satisfactory.

2.5- “Inductivist Refutationism”

We must make it clear that the inductive process, *as any other process*, does not necessarily lead to the truth. Something that has always been stable and reached the same results can have these results changed by some new condition or some new observation. We will never be sure about the ultimate truth of the universe.

That way, it is natural that a law or rule created by an inductive process stops being valid in case a new observation “rebutts” (*) the inductive regularity. In that case, evidently, the induction does not exist anymore, since this refutatory event did not pass through induction. The induction, in that case, was broken and therefore it is not an induction, it is not valid. We can clearly notice the brakeage of the inductivity by an unfavourable event as analogue to “popperian refutationism”, where evidence contrary to a theory is its own rebuttal element.

2.6- The Deductive Hypothetical Method

The Deductive- Hypothetical Method (DHM), in which hypothesis and theories are released to be later tested, does not go against the inductive method. If not, see:

In DHM a theory (or hypothesis) – not necessarily of inductive basis – is proposed. From this theory we can use logic and verify the consequences that it causes. If any observation “refutes” (*) the consequence of this theory or this theory itself, then the theory will be “refuted” (*). But clearly if the consequence of a theory is “refuted”, then the theory that originated it will also be refuted, since the strongest inductivist rule is the logical one, and by logic (more specifically by “modus tollens”) if the consequent is false then necessarily the antecedent will also be.

That way, we can verify that if DHM shows some case which results in a “refutation” of the consequence of a theory, this fact will also break the Inductivism of the theory that originated it. The opposite is also clearly true: a flaw in Inductivism by an observation would also “refute” (*) the theory.

2.7- The Evidence

An evidence is an observation, fact or event that corroborates or not a theory. The inductive method, in general, elaborates its theories from evidence, that is, inductivity

has its basis on reality as a starting point. Thus, Inductivism has advantages over other creation processes.

It is important to notice that theories or hypothesis generated by creation processes that do not come from empirical observation will also need to go through some kind of validation process, that is, a sequence of tests and empirical observations will also be necessary for the theories to be reliable.

Obviously in principle a newly created non-inductive theory, and yet with no favourable evidence can be true, while another that has been tested can be false. However, until the observations or experiments decrease or enhance the reliability of the theories, we must credit the theories that have already been through some observational test. In that case, inductive-based theories would have the initial advantage and therefore must *be taken as more reliable than the non-inductive ones*.

2.8 – Degree of “Inductive Reliability”

As a particular case, but not less important, we could say that a theory that does not have any favourable evidence, that is, the number of favourable inductions is zero, must have in principle, zero reliability.

As the amount of favourable evidence (quantity of valid inductive events) increases, the inductive reliability degree must also increase.

3- Necessity Criterion in Occam’s Razor

From this new theoretical base we can now answer the question in the beginning of this essay:

What is the necessity (or not) criterion of any hypothesis or theory in OR?”

The answer to this question can be given according to the “*inductive reliability*” degree (IR) presented by the hypothesis concerning the theory. The lower the inductive reliability (IR), the more unnecessary the hypothesis is.

Take the following theory as an example:

1b- For a car to move, it must have fuel, and its occupants must pray the “Our Father”.

The hypothesis of the necessity for the prayer for the car to move has a very low IR and therefore can be considered unnecessary. But in case our universe changes or the fact happens in another universe, this hypothesis can have a high degree of IR and then be a hypothesis that is not unnecessary. It all depends on associated inductive reliability.

(*) “Refute” is between inverted commas because, according to **P.I.F [3]**, it is never possible to know whether an observation is true or not. Therefore, it is never possible to know whether something was refuted or not.

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The Destropic Principle

By Jocax

Abstract: The “Destropic Principle” is an argument that establishes that every universe is equiprobable, and the possibility of life is not a more special feature than any other. This opposes to the “anthropic principle” when it is used to argue that there is a necessity for a divinity, or multiple universes, in order to explain the configuration of our universe, particularly, the capability of harboring life.

In order to explain life in our universe, I will refute the “anthropic principle” when it is used as an argument of the necessity of a deity or multiple universes. I had already outlined this argument in my previous article on the theme, *The Anthropic Principle and The Jocaxian-Nothingness* [1], but now I intend to go a little deeper in the analysis.

It is not a very intuitive argument, and that is why we should use an analogy to understand the idea behind. But first, I will summarize the anthropic principle and how it is used by creationists and religious people in general to justify God:

Introduction

The physical laws, usually written in the form of mathematical equations, are considered to be responsible for the characteristics of the universe and its evolution in time. These laws, as we know today, are composed by equations in which we can see some numerical constants (parameters). As examples we can cite, among others: the speed of light, the mass of the electron, the electric charge of the proton, etc. [2]

It is argued, without demonstration, that a little alteration (it is not clear what would the magnitude of this alteration be) in any of these constants would make the possibility of life in the universe not feasible. Those who claim that also conclude that a universe created with physical laws generated at random would hardly be able to trigger life.

Handicap

In all fairness, we need to note that a universe with random laws does not need to follow the pattern of physical laws we have in our universe, that is, the mathematical equations that would define a randomly generated universe could be totally different from the ones we have in our current universe (in principle it would not even be necessary to describe such universes through mathematical equations). That way, the parameters we have today would not apply to any of the equations in this random universe. Thus, it is totally FALSE to claim that all possible universes can be described maintaining the

same equations of our particular universe and varying only the constants present in them.

However, in order to refute the “anthropic principle” on its own support base, we should consider true the fact that all possible universes keep the same structure of equations as ours. We also assume that these equations are true, but knowing in advance that this is not true, since there is a theoretical incompatibility between the theory of relativity and the quantum mechanics. Besides that, we also suppose that any alteration in one of the fundamental constants would make the possibility of life impracticable, although no one has shown it yet.

An analogy

In order to understand the idea of the “Destropic Principle”, we will make an analogy with the real numbers of the equations which rule the several possible universes. Suppose that each of the possible universes can be represented by a real number between zero and ten. We can justify that by thinking that we can concatenate all the fundamental constants in a single numeric parameter.

In our analogy, the parameter “4,22341”, for example, would represent an U1 universe, which would be different from an U2 universe, represented by the parameter “6,123333...”, and so on. Thus, each of these numeric parameters would completely define the characteristics of the universe represented by them.

Suppose there is a machine that randomly generates real numbers between zero and ten. Each generated number would be the parameter that would define a universe. We can see that the possibility of predicting what number the machine will generate is very small, almost zero. However, the machine will certainly generate a number.

Suppose our universe is represented by U1 (“4,22341”). Then we can ask: what is the probability of the number of our universe being chosen, once there are infinite possible numbers? There are infinite real numbers between zero and ten, therefore it is almost impossible to foresee that the number “4,22341”, which is the parameter that defines the characteristics of our universe, will be chosen.

Thereby, when the machine generates a number representing a parameter of the universe, the answer to the question “How probable would the generation of a universe like ours be?” will be “As likely as the generation of any other specific universe”.

Equiprobable

In our model of random generation of universes all universes are equiprobable, since any real number between zero and ten would have the same probability of being

generated. No universe is more likely to be generated than the other. So, whatever the number generated by the machine was, it would be as unlikely to be predicted as any other number. We then conclude that our universe is so likely to be generated as any other.

Life

However, someone could retort:

“-Our universe is the only one where the possibility of life exists”.

The possibility of life is a peculiarity of our universe. Any other generated universe would also have its specific peculiarities. For example: maybe one of them could be made of tiny colored crystal balls, the other could form elastic goos, others, perfect spheres, and so on. If, for example, the generated universe produced little blue crystal balls, then we could make the same exclamation:

“-Only this universe produces little glowing balls!”

Or:

“Only in this universe there is possibility of producing elastic goos!”

And so on. For us, humans, life can be more important than little glowing balls, or elastic goos, but this is only a human valuation. There is no logic reason to suppose that a universe with life is more important than a universe that produces little glowing crystal balls, or elastic goos.

Therefore, we cannot claim that our universe is special and unique, because it is as special and unique as any other universe that was generated at random. All universes would have their specific features, generated by their also unique physical constants.

Another Formality

In order to clarify this idea, we can redo our argument using another formality:

Suppose the universes are described by six fundamental constants (the exact number does not matter, the following reasoning is for any number of constants).

Thus, any U universe could be defined by a system of equations that uses six basic constants. We represent this dependence as follows:

$U = U(A, B, C, D, E, F).$

Our U1 universe in particular is described in that formality as:

$$U1 = U (A1, B1, C1, D1, E1, F1)$$

Now, consider a U2 Universe with constants different from U1:

$$U2 = U (A2, B2, C2, D2, E2, F2)$$

As U1, by definition, contains the parameters of our universe, it will generate a universe that may harbor “life”, but cannot generate “lofe”. Similarly, U2 can generate “lofe”, but cannot generate “life”. “Lofe” is a random feature of U2, as the characteristic of being able to form a group of particles where the density is exactly 0,12221 (a random number), for example. Only U2 can generate “lofe”, and any change in the parameters would make the generation of “lofe” not feasible.

Of course, the same way, another universe, U3, with other constants

$$U3 = U (A3, B3, C3, D3, E3, F3)$$

would not make “life” feasible, nor “lofe”, but would make “lufe” viable.

“lufe” is a physical condition that occurs when the particles are subject to the regime of forces generated by the constants of U3 (A3...F3). Any change in one of these constants would make “lufe” not viable.

Note that there is no INTRINSIC importance about the universe generating “life”, “lofe”, or “lufe”. It does not make any difference to the generating machine or to the universe itself. Especially because the universe and the random machine do not have consciousness or desires. What differs to the machine is the value of the fundamental constants, not what they will generate or not. For the generating machine and even for the generated universe, it is irrelevant if it will be able to harbor life, “lofe”, “lufe”, or present any other peculiarity. Each universe has its own feature. If U1 allows “life”, it does not allow “lofe”, nor “lufe”; if U2 allows “lofe”, it does not allow “life” nor “lufe”; if U3 allows “lufe”, it does not allow “life”, nor “lofe”. It goes that way for any generated universe.

Thus, we can see that our universe does not have anything special, once nothing is intrinsically special. “Life” is as important as “lofe” or “lufe”. The universe is not worried if “lofe” generates consciousness or not, nor if “lufe” generates a cluster of an incredible yellow glow which would never exist in U1 or if “lofe” generates micro colored pyramids with their own indescribably beautiful glow. That matters to humans, little egocentric beings of U1 that care about “life”, maybe because they are alive.

Thereby, the probability of generating a universe that has “lufe” is equivalent to another one that has “life” or “lofe”. There is nothing miraculous or magical about our universe that makes it REALLY special. Therefore, there is no sense in saying that the probability of our universe being that way is the work of some deity. Whatever the generated universe was, its probability of having that feature is exactly the same as the probability of our universe being exactly as it is.

It is like choosing at random a real number between zero and ten. They are all equally probable and difficult to be chosen. None is more or less special than the others.

Jocaxian Theorems

João Carlos Holland de Barcellos

Jocaxian Theorem of First Cause (JTFC)

The Jocaxian theorem of First Cause establishes that:

The first cause of all events that took place in a closed system (one that is not influenced by events external to the system) is the randomization.

Proof:

Let's use the concept of time in which time is defined as a relationship between events. An event is a change of state in the system. Therefore, time is not independent from whatever happens. If, for example, no event takes place, that is, the state of the system remains unaltered, time then disappears. Change is necessary so that time can exist. If there is no change, there is no time.

Randomization is the word we use to say that there is unpredictability or that there are no causes. There are two types of randomization: objective and subjective. In the subjective randomization there are causes for the phenomenon, but they are either unknown or we cannot describe them. In the objective randomization, which we will talk about, the phenomenon occurs with no real causes, that is, its causes are inexistent.

The objective randomization exists in our nature, in our universe. As an example, we can cite the moment of decay of an electron in an atom: the electron can decay from a more energetic orbit to a lower-energy one by liberating a photon. Such phenomenon is not regulated by any physical law: it is considered by the quantum mechanics to be an objectively random phenomenon. There is nothing, no rule that can determine *when* the electron will decay from its orbit. Another example would be the creation and destruction of virtual particles in the vacuum.

First, in order to demonstrate the theorem, we will prove that there is no infinite time in past, that is, we cannot take the causes of the events to the infinite past and then say that there has always been a cause that preceded a given effect. Thus, we will use the *Kalam's Theorem* [1].

The Kalam's Theorem establishes that there is no infinite time in past. If, absurdly, there had been any event occurred in an infinite time in past, then our current present would take an infinite time to come, starting from that past. But what does "an infinite time to occur" mean? An infinite time for something to occur means that this thing will never occur. Thus, events occurred in an infinite time in past imply that we cannot have our present, but this is an absurd thinking once we are in the present! Then we can conclude that there has not been any event in an infinite time in past. That means we can deduce another important corollary: time had to have a beginning, necessarily.

As there is no infinite time in past and time had to have a beginning, the first occurring event had no previous cause, that is, it was a random event. And the theorem is proved.

Time Leakage Jocaxian Theorem (TLJT)

The Time Leakage Jocaxian Theorem establishes that:

If two systems are not isolated from each other and time exists in one of them, then time will exist in the other as well.

Proof:

Time is the relationship between events. If time occurs in one of the systems and they are not isolated from each other, then these events can be also correlated from the other system. Therefore, the first system, in which time exists, can be a time counter for the second system. Thus, there will be time in the second system too.

We can use both theorems to argue against the existence of God: God cannot be timeless as this would violate the Time Leakage Jocaxian theorem. If there is time in our universe and it is not isolated from God, then time also exists to God. Besides that, by the JTFC there is no necessity for God to generate the first phenomenon. This refutes Saint Thomas Aquinas' argument, which says that the movement requires a first engine that would be God. Also, it refutes the idea of a forever existent God, once it would contradict the corollary of the beginning of time.

The Existence Theorem

We will prove that there is an ultimate reality, a reality that does not depend on any interpretation of any being to exist.

In this text, we define reality – real existence – as events and/or facts that do not depend on interpretation (=thought, imagination, dream or processing) of any being to exist.

Demonstration

We will begin our proofing with “something 1”, that can be any object being observed e.g. an apple, or even the thinking itself: consciousness.

I observe something 1.

If this something 1 is the reality, the proofing finishes.

If Not:

This something 1 is just an interpretation (or imagination) of a being 1 and, in fact, does not exist in the reality. But this interpretation in itself of something 1, done by the supposed being 1, is also something 2.

If this something 2 is reality, then our proofing finishes.

If Not:

Something 2 is just an interpretation of a being 2 whose interpretation, in itself, is something 3.

If something 3 exists as a reality, the proofing finishes.

If Not:

This something 3 is just an interpretation of a being 3, which we call something 4.

Thus, in a generic way, we have:

If something (i) exists as reality, the proofing finishes.

If not:

Something (i) is only an interpretation (or imagination) of a being (i) whose interpretation in itself we call something (i+1).

If something (i+1) exists in reality the proofing finishes.

And so on. This way, if the interpretation never corresponds to a real existence, we would have an infinite recursion, which would be illogical. It would be something like a dream of a dream of a dream of a dream... infinitely. So, in order not to have this infinite cycle, we must have, at some point, an end to this recursion. That means that some of the "something (i)" have a real existence, that is, it is not an interpretation. And then we prove our theorem: "*I think, therefore, something exists!*"

Examples:

I see a red crow. The "red crow" can be real, and if it is not, my interpretation of it can. Otherwise, a being can be imagining (or dreaming) that "I" am imagining that I see a "red crow".

Another example would be a virtual universe: there are beings that do not really exist; they are simulated in a computer. These beings observe something. What they observe is not real either: it is virtual. Also, the beings themselves and their dreams do not exist: they are virtual. Therefore, their interpretations do not exist.

However, the computer which interprets them in this example is real, and its "imagination" (= its processing) is real, once it is what generates the virtual universe, the virtual beings and its imagination. That is:

What the virtual being observes is not real; it is a simulation of the computer.

The virtual being is not real either; it is simulated and depends on the processing of a computer.

The interpretation of the virtual being is not real either, once it depends on the processing of a computer.

The interpretation of the computer (= its processing) which produces the virtual being and what it imagines, in this example, would be real.

Refuting Descartes

That means that "I think, therefore I exist" ("Cogito, ergo sum") from Descartes can be untrue once the thinking being, as demonstrated in the example above, can be unreal. However, as proved before, there must be some level of interpretation in which at least the interpretation itself is real.

By the “Occam’s razor”, as long there is no contrary evidence, we must consider the lower interpretative level a reality. If I observe something 1, this something 1 must exist.

Corollary: There is a real being.

As a corollary of the system we can also claim that if I observe something, there must be some “being” that has a real existence, i.e. this being itself is not an interpretation.

Proof:

As we proved that there is an interpretation that is real, that is, an interpretation that does not depend on the interpretation of another being to exist, then the being that interprets must exist as well. If this “being” which does the real interpretation did not exist, that is, if it was the interpretation of another being, then its interpretation would not be real, as it would depend on this other being. Therefore, the real existence of a being is necessary so that a real interpretation can exist.

The Jocaxian Little Blue Devil

João Carlos Holland de Barcellos
translated by Debora Policastro

In my many years of atheism, since I was about 12, I could gather many arguments against God's existence. Some refer to the Catholic God, which has very well-defined features, some to gods who have a more blurred definition, therefore harder to be logically analyzed. Anyway, in almost every case, God has always the characteristic of, at least, being the creator of the universe and being endowed with awareness and intelligence.

Among the arguments I gathered, the most recent and what I consider to be the most stunning one because it is extremely simple and yet devastating, is the "Jocaxian Little Blue Devil". Below, you will see the summaries of the main anti-God arguments and evidence, starting with the one that entitles this text. (The names in brackets '[' next to each argument are the names of the probable authors of the original idea or the person from whom I got to know the idea).

1 - Argument: "The Jocaxian Little Blue Devil" [Jocax]

It is said that God is an entity necessary to answer the question:

"How did the universe begin?"

If we answer with the same question "How did God begin?" the theist would say that God does not need a creator, for he is his own cause, or that he has always existed, or that he is beyond our comprehension. And it is no use trying to counter-argue saying that we can use the same arguments replacing the word "God" with "universe ". The theistic mind requires a creator for the universe, whether you like it or not. However, there are other qualifications that are attached to this god-creator and are usually ascribed to God as a way to satisfy our psychological needs (i.e. goodness and/or omniscience and/or omnipotence, and/or perfection, among others). But, from the finding that this is not absolutely necessary to create the universe, comes the "Jocaxian Little Blue Devil" argument.

If you say that God created the universe, I MAY EQUALLY SUPPOSE that it was not God who created it, but the "Little Blue Devil". But this little devil is not as almighty as God, he does not have God's omniscience, he is not as good as God, not as perfect as God and, in order to create the universe, he ended up dying due to the amount of effort he made.

My little devil, being much less complex than your God-Almighty, should be PREFERABLE in "Occam's razor" terms to God! Therefore, before evoking God as the

creator of the universe, you should evoke the “Jocaxian Little Blue Devil”. Otherwise, you would be acting illogically by adding unnecessary assumptions to the 'creator of the Universe'.

Comment: there is no need for a creator with all the features of a “God” to create the universe. It would be enough having power to create it. Thus, the affirmation that says that a "God" is needed so the universe can exist lacks rationale.

2 - Proof: Contradiction to the FACTS [Epicurus / Hume]

If God is Good, then God does not want unnecessary suffering.

If God is powerful, then God can do anything.

Logic: If God can do anything and does not want suffering, he can prevent suffering.

Fact: 40 million children died recently drowned by a tsunami (death with suffering).

Conclusion: The hypothesis (good and powerful God) cannot be true, once it contradicts the observed fact.

Comment: Some may argue that the suffering was necessary because some people needed to "learn". It is possible to counter-argue that by asking what the children learned by drowning. It is possible to counter-argue against the "original sin" by asking if it is fair that the innocent pay for the guilty. But that would not necessary, once a good and almighty God could teach anybody anything without having to sacrifice innocent lives with tragic deaths. If God had to sacrifice so many lives, it means he is not powerful enough or not good (in the human sense of the term). It seems that the original argument refers to Epicurus, though its formalization is from Hume.

3 - Proof: internal contradiction (inconsistency) [Sartre (?)]:

God is OMNISCIENT, therefore he knows everything that happened and will happen.

God gave men freedom; therefore men are free to choose.

Contradiction: If God knows everything that men will choose (factual knowledge) it means that men have NO freedom of choice. (Everything was planned in God's mind and men could not change it).

Follow the demonstration [by Jocax]:

Suppose the existence of God Almighty. Then, it logically follows that:

1- God is omniscient.

2- Being Omniscient, God knows EVERYTHING that will happen.

3- Knowing EVERYTHING that will happen, he knows everything you will do and choose, even before you existed.

4- If God knows everything you will do and choose, you cannot do anything different from God's prediction.

5- Since you cannot do anything different from the divine prediction, you must necessarily and mandatorily follow it.

6- If you are obliged to follow God's prediction, it is impossible for you to choose or do anything different from it.

7- If it is impossible for you to choose or do anything different from the divine prediction, you do not have free will!

As we wanted to demonstrate.

Comment: before a man is born, even before he gets married or does any kind of choice, his fate would already be planned in God's omniscient mind. So, nothing the man could choose would be different from the path already laid down by God. Thus, the so-called "Free Will" would be nothing more than an illusion. This means that either the man is not free to choose, or God is not omniscient. This is one of the most striking logical evidence against the existence of God.

4-Argument: By the Occam's Razor [Jocax (?)]

-There is no evidence that God exists.

- The set {Universe + God} is more complex than the set {Universe}.

By the Occam's razor, we should discard the first hypothesis of a universe with God in favor of the second, which is very simple, once it requires at least one hypothesis less.

Comment: We can make a metaphor of this argumentation through the "Nail Factory" argument:

First, we must agree that if we had to choose between two hypotheses for the origin of everything, we would have to stick with the more likely one. And if we wanted a more scientific explanation, we should stay with one of several physical theories about the origin of the universe, like the one that says that the universe emerged from the quantum vacuum: the particles would have been created from a "quantum fluctuation of vacuum". This is only a theory, which cannot be proved, but it is much more reasonable

than the premise that there was a HUGE Nail factory (God) that made all the nails, but no one dares to ask about its origin.

The idea of comparing God to a "nail factory" is described below:

There is evidence of "nails" (elementary particles). Someone says that there must be a creator for these nails, and proposes that there must be a huge and complex "Nail Factory" (God). But this is NONSENSE. Besides the fact that there is no evidence on the Nail Factory existence, it would be FAR more complex than the nails found. So, by the Occam's Razor, it is much more logical to assume that the nails have always existed than that the great "Nail Factory" has always existed and is hidden somewhere that can only be known after death.

5 - Argument: God, if he existed, would be a ROBOT [By Andre Sanchez & Jocax]:

- God is omniscient, omnipotent and knows everything that happened and will happen.
- He also knows * all * of his OWN future actions.
- It means he should follow all his already planned actions, without being able to change them, exactly as a robot follows its programming.

Conclusion: God, if he existed, would not have free will. It would be a robot, a kind of automaton that must forever follow his programming (his own prediction) without being able to change it.

Comment: God's omniscience would lead himself to a tedious prison from which nothing could go out even if he felt like doing it. He would be stuck in his own cruel omniscience.

6 - Proof: If God existed, there would be no imperfection [unknown author]:

If God existed and was perfect, everything that he created would be perfect.
Mankind, being his creation, should also have been created perfect.
But how could a being created perfect be corrupted and become imperfect?
If mankind was corrupted, it was not perfect, it was corruptible!

Conclusion: God could not be perfect, once he generated something imperfect.

Comment: A perfect being wants perfection, and even if God had created men with free will - we have demonstrated above it is an illusion -; if men were perfect, they would have made perfect choices and would not be corrupted.

7 - Argument: Origin of God [unknown author]:

The argumentation of the *intelligent design* according to which the complexity of nature requires an intelligent creator collapses when no one offers any explanation about the origin of God. Once again according to the *intelligent design* argument, God, as an extremely complex and intelligent being would need to have an intelligent creator, who would be the "God of God": the creator of God. This "Creator of God ", once he is smarter than God, accordingly to the same argument, should also have an extremely intelligent creator: "God of God of God ". And so on, ad infinitum. It is possible to see that the argument that something complex needs a more complex being to be created is NONSENSE.

Comment: the *Intelligent Design* is largely used nowadays to teach religion courses in some Brazilian and American states, as if it was science.

8-Proof: The universe could not be created. [by Jocax]

Suppose God exists. If he had an infinite intelligence, he would not need to spend time deciding something or processing information. Thus, he would not spend any time deciding to create the universe. That is, the Universe would have to be created in the very moment God was created. If God was never created, then the universe could never have been created as well.

Comment: If there is movement, there is time. If there was no time, nothing could have moved.

9- Proof: God cannot be perfect. [unknown author]

If God was perfect, he would not have any needs; he would be self enough. However, if he decided to create the universe, it happened because he had a need for this creation, therefore he was not self enough, he was imperfect.

10- Proof: If God existed, he could not be perfect. [Jocax]

Many believers take physical laws and their "magical" constants as evidence of the divine wisdom once it is supposed that a little alteration in them would cause the universe to collapse and be destroyed.

However, they forget THESE laws, specially the second law of thermodynamics, provide the inexorable, slow and agonizing collapse of our universe, showing that there has been a SERIOUS FLAW in its conception, what would make it unfeasible in the long run.

Comment: the second law of thermodynamics is known as the law that says that the entropy in a closed system is never reduced. We can consider the whole universe as a closed system once nothing enters or leaves it.

11 – Proof: If God existed, he could not be good. [?]

God, hypothetically omniscient and omnipotent knew everything that would happen BEFORE he decided to create the universe. He knew everyone that would be born and what each person would “choose” for his/her life. He even knew that a huge TSUNAMI would come and drown 40 thousand children. If he had the power to make the universe slightly different, maybe he could have prevented this tragedy. But, knowing EVERYTHING that would happen in the future, knowing all deaths, all the disasters and calamities, God put his plan into practice and started watching from the front row seat. This is not worthy of a generous being.

12-Proof: by the universe definition, God could not have created it. [Jocax (?)]

noun

•everything that exists, especially all physical matter, including all the stars, planets, galaxies, etc. in space

So, the universe can be defined as the setting of all that exists. Therefore, if God existed, he could not have created the universe, as he would be a part of it!

Comment: The believer could then only set God as the creator of matter/energy and not of the universe itself.

13- Proof: by the current laws of Physics, it would be impossible for God could to exist [unknown author]

Quantum mechanics has a fundamental law called “Uncertainty Principle”. According to this law, it is IMPOSSIBLE, regardless of technology, to know the exact position and speed of a particle. That means that physically it is impossible that a “Omniscient God” exists, once he would know the exact position and speed of a particle and that would violate a fundamental pillar of modern science.

14 – Proof: If God existed, he would be sadistic and selfish [Renato W. Lima (?)]

It is intended to show that God needs to create an imperfect world; otherwise the world would be himself. It would be possible to argue that creating a clone of himself would be better than creating an imperfect world to, sadistically, watch it suffer. However, knowing that the world is not perfect does not imply that one must refuse assistance when necessary, as long as there is enough power for that and one does not desire that evil happens. If God had really created imperfect beings like us and different from him, he would be selfish, as he wanted to be the only perfect being and owner of power. And selfishness is definitely not a good thing.

15 – Argument: Igor’s Theorem [Igor Silva (?)]

If we had to choose one of the options below, which one would be more likely or easier to happen?

A- A dead person resurrecting and ascending to heaven (without rockets) or
B- Someone writing lies in a piece of paper or book and people believing in it?

A- Someone who has performed miracles that go against the laws of Physics or
B- Someone writing lies in a piece of paper or book and people believing in it?

A- A totipotent being (God) existing and creating the universe or
B- Someone writing lies in a piece of paper or book and people believing in it?

Comment: This text is a simplification of Hume's argument:

[...] "No testimony is sufficient to establish a miracle, unless the testimony be of such a kind, that its falsehood would be more miraculous than the fact which it endeavors to establish" David Hume «*Of Miracles*» (1748)

16- Argument: By the Kalam's Theorem [unknown]

The Kalam's theorem claims that nothing can be extended in an infinite past time because if there was an infinite time in past, it would take an infinite time since this past until our present. So, an infinite time means never. That way, we would never have our present. But this is an absurd once we are in the present. Similarly, if there was a God whose existence extended until an infinite time in past, we would never have this present. Therefore it is not possible for a God that exists in an infinite time in past to exist.

17 – Argument: For the unnecessary of a Cause [Jocax]

The origin of the universe and its laws can be satisfactorily explained through the Jocaxian-Nothingness (JN). The JN explains in a logical way that the cosmos could emerge from the Jocaxian-Nothingness, once this Nothingness would not have laws that restricted whatever. Thus, due to the lack of laws, events could happen. That eliminates the necessity of a conscious creator like God to explain our cosmos.

Portuguese Version: <http://www.genismo.com/religiaotexto32.htm>

Jocaxian Democracy: The Best Democracy

João Carlos Holland de Barcellos, December /2008

Translated by Debora Policastro

Introduction

The Jocaxian Democracy is a model of democracy in which anyone can vote for anyone and the representativeness is given by the quantity of direct and indirect votes that each voter/candidate receives.

Parties

The parties are something “perverse” about the current political systems. The parties differ from each other by their “governmental plans”, and especially by their ideologies.

Nevertheless, a great part of the population does not feel comfortable about “engaging” into this or that party. A lot of people also do not sympathize with the ideology and governmental plans of the existent parties. Why do we have to be restricted and obliged to vote for the same party ideologies ever and ever? The way it is people are limited to a few offered options. Founding a party? Few people have this kind of time and inclination.

Another problem which I consider very serious about the current party democracy is that the candidates from each party do not need to have any popular representativeness: they are chosen in an indirect way, without popular participation, from inside the parties. For example, in order to run for president it is enough that the candidate is affiliated to the party and chosen by its members. And a good marketing would take care of the necessary image. We are then “obliged” to vote for one of these few candidates we barely know...

Thus, how can we say that the people elected their president in a direct way if the few candidates available were actually chosen in an indirect way, in the backstage of their parties and with no popular participation or representativeness?

The ideal would be a system that allowed the existence of as many parties as there were electors. The “official” parties would not be the only to put candidates in electoral disputes.

The “Jocaxian Democracy”

The Jocaxian democracy (named before as “Representative Democracy”) is a democracy system in which everyone has the same opportunity, everyone has the same

rights, everyone can be elected and all this without the necessity of political parties!
Here is the idea:

All people that are able to vote, that is, the electors are also candidates in potential and would have the same rights as anyone else.

Initially, in a first level, each elector could choose, that is, vote for any other elector he wanted. It could be for example, him/herself, his/her mother, his/her rock idol, his/her teacher and so on. That is, the elector could vote for any person that belonged to his election zone: in case of a presidential election, it could be any person inside the country; in a governor election, it could be any person inside the state; in a mayor election, anyone in the city.

The difference between a candidate and an elector is that the candidate, in order to remain candidate, must vote for him/herself and the electors vote for people who are not themselves.

In the JD, initially, each person has a single level of representativeness. It starts with each person having a unit of representativeness. Each time the person receives a vote it is added to his/her representativeness. Therefore, the representativeness of a person is the amount of votes that he/she received.

Each time an elector gives his/her vote to somebody he/she goes out of the electoral dispute and transfers all his accumulated representativeness to the elector that received his/her vote: if an elector "A" which had the representativeness (=quantity of received votes) "a" votes for another elector "B", who had representativeness "b", the representativeness of the elector "A" is transferred to the elector/candidate "B" and becomes "a"+"b", as the person who voted now has zero representativeness and is out of the electoral dispute.

This way, the representativeness of "A" is transferred to the person he/she voted for ("B"), but the sum of the people's representativeness is kept. In our example, "A" got zero representativeness and "B" got "a"+"b" representativeness. The total representativeness was kept. Thus, if a person votes for him/herself, his/her representativeness is not altered by his/her own vote.

On the levels that succeed the first one, the voting will be localized geographically:

On the second voting level all the voters that live on the same block and are candidates, that is, voters that have representativeness larger than zero, must gather and get to know each other's ideas and, after that, vote on one another. After the voting, the voter that has the bigger representativeness wins the election of his/her block. The votes that direct or indirectly are not transferred to the winner, through the voting will be discarded

This algorithm must be used in all levels: the winner of the level is the one who has the biggest accumulated representativeness after the voting is closed. The votes that are not transferred through the voting to the winner are discarded.

On the third voting level, the winners of each block in the district would gather and, like in level two, would choose their district representative.

On the fourth level, the winners of each town would gather and choose the candidate of the town.

On the fifth level, the winners of each town would gather and choose the mayor of the city and vice mayor.

On the sixth level, the mayors of each state would gather and choose a governor and a vice governor. The vice governor would take the place of the mayor that was chosen to be a governor.

On the seventh level, the governors in the country would elect their president and the vice governor would take the position of the governor elect president.

This way, despite the elections being indirect, there would be popular participation in all levels. Everyone could be elected, at first, and there would be as many ideologies that could be chosen and equally likely to be chosen as there are citizens in the country.

Portuguese version: <http://www.genismo.com/logicatexto32.htm>

Love, according to Jocax

by: Jocax (Feb. 16, 2001)

Translated by Debora Policastro

New version: May 2006

"Love is an instinct, programmed into us by our genes in order to do the **Quality Control of the person who may be the parent of our children."**

From this we conclude that:

1-Love is an instinct.

Love is an instinct. This means that love is not directly controlled by our conscious will. I must emphasize that instinct (the way I herein talk about it) means desires, impulses or reflections, in short, mental algorithms, which are molded into our brains by a prescription encoded in our genes. An instinct may sometimes be molded by the environment, that is, its action also depends on the circumstances in which the organism is inserted. They are known as epigenetic rules. Anyway, instincts are beyond our conscious control; we cannot choose what we feel, when we feel or for whom we feel.

Love being an instinct, that implies it is also hereditary. But it does not mean that the object of love is determined exclusively by genetics. As I said before, mental algorithms can be modulated by the environment, that is local culture may fix some values that will influence mental algorithms in determining the beloved object. I believe, however, that most of the traits that influence love are genetically determined. Some traits are always appreciated, regardless of culture or time, for example, beauty, intelligence, character, health will always have a strong influence on the degree of love, but the proportion of each trait necessary to trigger the instinct - and make the person love - varies from person to person and must be determined genetically.

2-Love is an instinct for **quality control.**

Many still believe that the "goal" of living beings is to perpetuate the species. It is not. The goal of every living being is to perpetuate genes, its own genes.

To perpetuate means surviving through time, across generations. That means the quality of the bearer of genes is essential. Our genes will combine to the ones of the opposite sex and form another being. If the genes that will combine to ours in our children do not have "quality" enough, our genes will not survive the time and that means not surviving to competition with other individuals, or not attracting sexual partners to have children or even not having good partners. Thus, quality control is necessary for the genes to maintain their "intent" of immortality.

Moreover, the quality of the offspring is not only due to the partner's genes. It is not profitable to have many descendants if they do not survive a single generation because they are not physically or culturally prepared. Therefore, there is a compromise between quality and quantity. In general, the higher the number, the lower is the quality. The inverse is also true: the fewer children, the greater the care and investment "per capita" and therefore the higher the quality of each, increasing the possibility for genes to go through generations.

In short: Love serves as a quality filter for us to make a good choice of the partner you can mix your genes with through children.

3 - The goal of love is to generate children.

The aim of love is to generate children because it is through children that genes jump from one generation to another in their "search" for immortality. That explains the direct ratio between love and sexuality, libido, between love and wanting one always near, jealousy. Jealousy is a form of ensuring, and mainly keeping the beloved partner as a future provider of gametes (eggs / sperm) that will unite to our genes. It is also the reason why oldness is so feared by women: men will instinctively prefer younger women, at reproductive age (even if they do not consciously want to have children), and this is perceived by women who will desperately struggle "against" oldness.

That is why aging in men is not as tragic as it has psychologically been for women: men have almost double the fertile period that a woman does, so they do not suffer the same selective pressure by the opposite sex as women do.

For this reason we do not fall in love with (at least apparently) high quality people, as muses of great beauty or famous artists: although they seem to have great genes, they would be far beyond our real possibilities and then the instincts are not fooled by illusions that may not generate children.

2.0 - Passion according to Jocax

Passion is a form of love. Passion is the feeling of love in an extreme degree, and almost always mixed with great imagination.

Passion is characterized by the obsessive desire for the beloved one. This obsession often happens because, not knowing all the aspects of the beloved one, those aspects are filled by the imagination of the person in love.

That is why many times the passion fades away as suddenly as it came: when the imagined

aspects are replaced by the real ones, which not always correspond to those previously imagined. That normally happens as the person gets to know for real the beloved object.

Nevertheless (but rarely) the reverse can also happen when the characteristics initially imagined are confirmed by the time: passion is then consolidated as an enduring love.

As a form of love, passion also seeks genetic perpetuation, and therefore it is also a feeling connected to sexual desire. Like love, passion measures the genetic quality of the beloved being; however the estimated quality is not always true, because it is mixed with imaginary aspects.

Therefore, it is not impossible to replace a beloved one by another one, since this other one may have more qualities than the first one, and therefore the target of passion could switch its destination.

Passion is dangerous because, bringing along imaginary aspects, one is at risk of taking wrong decisions. On the other hand, it might be the only way for excessively shy people to have children.

Thus, I believe passion will be greater and more frequent according to how shy the person is. This is due to the fact that if shyness is genetic, the only way for the person to feel free and get involved would be through a more powerful feeling.

Passion, as a type of love, is also related to the generation of children, and because of that, old men very commonly fall in love with younger women at a high fertility age: the man's genes "notice" that there will be high probabilities of perpetuating themselves. Passion then settles so that the body can chase the gene-perpetuating target. Note, however, that there must be some kind of reception by the young woman for that to happen, since if a woman does not give any indication of receptivity to the man, the instincts notice a "zero chance of copulation" and may give up "owning" the body with passion. Therefore, cases of passion between old men and much younger women are predictable and real, but for them to happen, as in all cases, the woman must provide some indication of possibility of intercourse with the men.

The Genismo

João Carlos Holland de Barcellos

translated by Débora Policastro

Genetic Philosophy

The roots of Genismo date back about 20 years ago, around the 80's. By that time, I had created what I call "Genetic Philosophy" [1]. It was a simple doctrine, based on the finding that we are not able to change our instincts since they are genetically codified; however, it would be possible to do so through our culture and beliefs, which are cultural products and therefore can be substituted. It was clear to me at that time that much of our suffering was due to the dichotomy between our values like religiosity, ethics and moral on one side, and on the other to our instincts, wills and wishes. Then the best thing we could do would be to adequate our culture to our biology as much as possible, not the opposite. The opposite would be biologically impossible. Putting our beliefs and culture against our biological imperative could only produce more suffering and unhappiness.

Let us note in passing that the Freudian theory of sexuality can be seen as one of the facets of my old "genetic philosophy" since sexuality plays an important instinctive role and, therefore, we could expect that a violent repression to those instincts would cause suffering or various disorders.

Later, around 1990, still intrigued by man's biological nature, I read the fantastic book *The Selfish Gene*, by Richard Dawkins. The book shows clearly that all living beings evolved through natural selection "in order to" perpetuate their genes. "In order to" is between inverted commas because it is a metaphoric notation: organisms do not really have a conscious objective of perpetuating their genes. They act in this way instinctively, through impulses or reactions that are pre-coded in their nervous system. These reactions can be pretty complex, since only organisms (herein understood as a set of genes) that can transmit their genes to future generations remain in the *gene pool* of the population. The ones that are not able to do so for some reason do not have their genes preserved; therefore, their characteristics are eliminated. That way, it is like the living organisms had an intention to act in compliance with their genetic perpetuation.

We must notice that the instinctive value of life, that is, survival itself, is nothing more than one of the many features of genetic preservation. Before the reader thinks that Genismo is all about offspring, as many do when in contact with the doctrine for the first time, I must say that that would be a crude simplification. It will make all the difference to remember that our genes are not only in our bodies, as we will see.

“Genes created us and we must serve them”

Well, Dawkins’ *Selfish Gene* showed clearly through innumerable examples from the natural world that living beings were programmed by natural selection to perpetuate their genes. To perpetuate genes means making them survive for as long as possible through generations. Actually, organisms could be seen as carcasses, biological devices or “*Survival machines*”, as it was addressed by the evolutionary biologists at the time, that were “made to” survive and pass their genes on to the next generation.

In the book, maybe for prudence, Dawkins did not use human examples to demonstrate this point of view and, for my own luck, he stated we should go against our genes! In his words:

“Let us understand what our own selfish genes are up to, because we may then at least have a chance to upset their designs, something that no other species has ever aspired to do.”

So that the reader can start to understand this *gene-perpetuative* paradigm, it is important to notice that animals supposedly irrational do not undertake battles and bloodthirsty mortal wars against their own species and, in a surprisingly way, it is rare that one of them dies in individual fights, like territorial disputes or because of females in heat. Even in the search for food and hunger situations, very rarely species will eat another member of its own species. Why is that so? Is not survival the biggest biological imperative of all?

That happens because the biological nature of living beings is centered in perpetuation of genes of shared organisms, not individual ones. If the biological paradigm was only sheer survival, no female would risk its life to save its descendants from danger. The animals would hunt and eat their own species and offspring when hungry. But that rarely happens. What happens is that the supposedly “wild” animals follow their genes closely, more closely than humans. Humans have consciousness and a mighty brain unfortunately capable of betraying our genes. That happens not only through wars against our fellow creatures, using famous “mass destruction weapons”, but also against ourselves and as a consequence, endangering our own happiness.

“Happiness is to walk the path of genetic perpetuation”

Thus, my old genetic philosophy evolved to Genismo sometime after I read “The Selfish Gene” and realized we should avoid acting against our genes and start acting for them. Obviously, we should be restricted to some ethical dominion, but yet we would

have an ample playing field that would minimize our suffering, give us a meaning to life and a new kind of immortality, not anymore based on illusions, but on real entities: the genes.

Genismo, during a phase that lasted from 1990 until April 2003, established that we should assume culturally our biological condition of “Gene-Perpetuator Machine” and act to perpetuate them. As a result of such actions, which I called gene-perpetuative actions, we would maximize our happiness, since we would reduce culture x instinct conflicts and integrate our culture to our deepest biological essence.

“Our genes are our most precious assets”

Of course the acceptance of our “gene perpetuator machines” intrinsic condition is not trivial: it imposes changes to our old values, some perhaps based on religion, and changing inveterate beliefs and values is undoubtedly the most difficult task in the world. But the doctrine establishes clearly that our most valuable asset is our genes and if we want to maximize happiness without corrupting truth, we must accept it.

It is important to highlight that our genes are not only in our individual bodies, but spread all over humanity, as well as other species. We share the largest part of our genes with our descendants and relatives, but the difference with other members of the same species is not that big. We share about 86% of identical genes (not chromosomes) with our children and about 68% of identical genes with any other person.

This genetic sharing should provide us, in a cultural value level, acknowledgement and acceptance of other beings as part of us. That way, acceptance of Genismo could (and would) sponsor a bigger altruism in relation to our choices and actions. Thinking that our consciousness is us, our essence, causes an increase in human selfishness. This selfishness occurs because usually consciousness is understood and accepted as something individual and, differently from genes, something that cannot be shared. We must remember that selfishness of genes does not necessarily imply selfishness in behavior. Most of the times, the opposite happens: consider, as an example a mother, not necessarily human, that risks her own life in order to save her offspring's. This altruistic behavior in relation to her offspring was produced by “selfishness” of her genes that “want” to survive and perpetuate, and led to an altruistic behavior. There are many other types of genetic altruism (instinctive) with members of the same species but not directly related.

“God does not exist and the only way to transcend death is through genes.”

Genismo is a branch of atheism and is committed to science and truth. For that reason, generally, beliefs not linked to reality such as religion, mysticism, esoterism and other types of religion or pseudo-science lacking factual evidence are not considered beneficial. Especially deistic religions are seen by Genismo as alienating and dangerous

memes, since their followers usually have a distorted way of seeing the world that sometimes may lead to contradictions, unfairness and unhappiness.

The genists – Genismo followers — must be tolerant with the infected by religious memes (believers), since they know these believers had generally had their brains infected when young by powerful and sometimes irresistible memetic genes. As these memes, through faith, lead the individual to a continuous and persistent acceptance of contradictions (implicit in those religions), it is extremely difficult to make them notice that those contradictions should imply the falsehood of their set of premises (beliefs).

Immortality through genes reinforces our gene-perpetuative actions and is also a form of happiness Genismo offers. However, as genes are real entities and souls are not, the feeling of immortality through genes is a belief with factual support. Thus we see Genismo as a generator of two distinct sources of happiness: the first, the most pragmatic one, brings happiness by reducing cultural conflicts (memes x genes) and breaking the dichotomy between culture and biology, therefore leading the individual to greater body-mind integration. The second genist source of happiness is of a more “elevated” level, perhaps ideological: it comes from the feeling of immortality through genes and gives life a transcendental sense without appealing to false illusions.

“Genist Ethics is Scientific Meta-Ethics”

Genismo leads individuals to value their genes and make them act in a way they will consciously want to perpetuate them. That is the “reason” why we evolved, and Genismo reinforces that that is also the reason we should live for. **This way Genismo transforms a biological goal into a cultural one.** It unifies culture and biology. This new way to see ourselves helps us integrate with our unchangeable essence that is our genetic programming.

Nevertheless, there may be gene-perpetuative possibilities that, although can bring happiness or pleasure to their executor, may provoke more suffering and unhappiness to other individuals, decreasing total happiness in the group, something that goes against the principles of SME. In that case, those possible actions must be avoided, since Genismo is restricted to SME dominion. We must therefore be always alert and not lose sight of the genist goal: happiness. Although Genismo does not yet have a detailed and explicit ethics code, ethical restrictions to our actions must necessarily be based on “scientific meta-ethics”: each individual’s happiness is limited to the happiness of the group. That is, an individual in the group must not enhance its own happiness at the expense of overall happiness of the group. Total happiness prevails over individual happiness.

“We are our genes”

In April 2003, Genismo evolved again: it was becoming each time clearer to me that our consciousness was not our essence, but our genes. Genismo used to treat “us” and “our

genes” differently. We treated our genes as “them”. We should serve them and live for them. Implicitly we were privileging our consciousness as our “true self”. From that date on, not anymore. Our consciousness, as our arms, stomach, eyes and nails must be seen as appendages of our true self: our genes.

Although our consciousness apparently [2] has control of our actions, it is a result of a small part of our brain processing; maybe even of a minute area of our brains. Thus, it is more reasonable even physically to think that we are our genes, since differently from our consciousness they permeate virtually all cells of our body: from the toes to the nucleus of each of our neurons.

However, the dictatorship of consciousness has made its roots very deep. There will still be time until this new paradigm reflects on our colloquial language, and because of that we must be comprehensive while we still treat genes as “them” and our consciousness as “us”, even because we would not be understood by the ones that do not know Genismo. But a genist would know that when we say we are struggling to perpetuate our genes, we must understand we are struggling for our own immortality.

There is more than one way to reach Genismo. One of them is through Scientific Meta-Ethics (SME): happiness is maximized in the pleasure centers in the brain that produce it when the organism acts according to its evolutionary programming, that is, in a way to perpetuate its genes. Another way is through study of life evolution. The following text, one of the firsts I wrote concerning this new paradigm, shows how Genismo can be understood through neodarwinian study of life evolution.

Hierarchized Genismo

Genismo is a meme that has happiness as a goal. Happiness is not only pleasure, but the addition of pleasure (and suffering) proportional to its duration on time. Suffering decreases the value of happiness while pleasure increases it [1].

By the theory of evolution and natural selection process, we know that living beings evolved *as* if they had the unconscious and instinctive goal of perpetuating their genes, that is: maximizing their “gene-perpetuation”.

There is no transcendental reason for living beings to act this way. That happens because the genes that are present today are exactly those that were able to adapt their bearers to preserve them until the present moment.

The genes that did not make their bearers perpetuate them, that is, were not able to make the organisms (phenotypes) that carried them pass them on to the next generations, perished. Those genes are not among us any longer. Therefore we are all living descendents of the first replicant (“the primordial gene”), which originated life about four billion years ago and was successful to survive through times [2].

For that reason, the base of evolutionary psychology, the science that studies the behavior and social structure of living beings is based on the “gene-perpetuative” paradigm.

But how do genes make their bearers (us) act “in a way to” perpetuate them?”

Evolution and Consciousness

Genes instigate their organisms to act in a “gene-perpetuative” way, as:

1- Rigid and biologically codified mechanisms.

That way, for instance, a plant does not need to think or feel it has to turn its leaves towards the sun in order to receive light: internal mechanisms turn the leaves in the direction of sunlight captivation. They execute this task automatically. Fructification or seed launching are also automatically done by the genetic regulation of the plant, with no help of any nervous system.

2- Hyper primitive instincts

In beings that own nervous system there are mechanisms codified by genes through mental algorithms (instincts) that instigate the organism to behave and act almost mechanically, without the need to think about its actions. Those algorithms are in general placed on the base of the brain, in the reptilian system. For example: breathing control, pupil dilatation in the dark, bristle of hair when cold, etc. The increase in the ability to survive and reproduce is a feature that helps genetic survival.

3- Instincts that generate wishes or wills.

Other instincts (=mental algorithms genetically codified to solve specific problems) do not produce directly an action in the organism, but impulses, wishes and wills, in a way that the organism itself, through other instincts or use of reason and logics, will decide the best way to satisfy them. In general, those mental algorithms that generate wishes and feelings are situated in the brain limbic system. Examples: anger, love, jealousy, etc.

4- Reward mechanisms.

Reward mechanisms are studied by a science area known as “behaviorism”. Those internal mechanisms make the organism learn (through usage of memory) through pain (or pleasure) that an action is harmful to the genes (or beneficial to them). For instance: putting a hand on fire causes pain and pain is a sign and a way to learn that this act is harmful to the genes. Eating sweet substances is pleasant because, in general, they offer energy to the body and that is beneficial to the genes.

5- *Epigenetic Rules*

“Epigenetic rules” are improved forms of instinct. They are basically mental algorithms that are not used while not necessary. But when triggered and put to action they may activate a lot of internal mechanisms. Such instincts are not triggered without a previous evaluation of their necessity in relation to the environment. For example: being slapped on the face may trigger anger, or may be caress display in some culture. The same sensorial stimulus may activate others like anger and affection or not, depending on the context.

Those instinctive mechanisms developed through natural selection since thousands, even millions of years ago. However, the environment changes more rapidly than the genes adapt to it. That can make them lag behind environmental changes, what causes risk of death or extinction of species. For that reason, the genes made the epigenetic rules flexible through natural selection, what led to the appearance of the neocortex: the thirst for reason.

With this new human brain layer, almost every stimuli that before would trigger instincts that make the body act immediately do not do that anymore. The instinctive actions are blocked and, before being triggered, they go through a rational/environmental evaluation: consciousness.

One of the functions of consciousness is therefore blocking instinctive actions and evaluating the best answer. With a more efficient response to environmental stimuli, reason naturally took place of instinct in control of actions. For that reason we (sometimes) are able not to hit a person in case he/she annoys us.

Obviously, the genes that created this brain layer only survived because this strategy was more efficient to perpetuate the genes of the organism. Why? Because we are here!

If the genes that created reason and consciousness had been less efficient to perpetuate we would not be here with all this conscious and rational apparatus in the head.

With this new neurological apparatus in the brain, a new level of gene-perpetuation appears:

6- *Absorption of memes.*

As a consequence of the speed of environmental changes and genetic inability to create mental algorithms specific to each different environmental situation, the genes created a more flexible structure – the neocortex- which can block instincts and analyze the best solution through reason instead of responding immediately. The ability to store memes in brain memory allowed knowledge to be used without having to be reinvented.

Since then, the culture and the brain have advanced and evolved a lot. That allowed us to land on the moon, create medicines and become one of the species with the biggest evolutionary success on the planet.

Ideological Pleasure

The ability to absorb memes made the ideological pleasure possible.

The ideological Pleasure is what we feel when we act in accordance to the ideology (memes) we believe is true. It has probably originated from the necessity of cohesion in territorial disputes and tribal wars in our evolutionary past. For instance, if we belong to a soccer team, religion, club, city, country, etc, we should feel pleasure when we act in benefit of the group or the institution we belong to. This pleasure is based on the fact that people that are close to us and share the same interests should probably share more similar genes; thus, helping them is also a way to help our genes, since we probably share more genes with them than with strangers.

Genes and Happiness

It is important to notice that the usage of instincts, epigenetic rules and reason itself had a “purpose” [4]: those mechanisms evolved while benefiting gene-perpetuation. But these organisms are not really interested in gene-perpetuation (actually, not even the genes are)! These organisms want more and more pleasure and less suffering and pain. So, all *usage* of internal brain mechanisms to solve problems means only more sophisticated ways of solving problems to increase pleasure and decrease pain for the longest period of time possible, that is: **they are ways of trying to maximize happiness!**

What happens is that organisms that own nervous system are ALWAYS running from suffering and seeking pleasure. All the time. As pleasure multiplied by time is happiness, to put it simple, organisms are always seeking pleasure. And the genes, on the other hand, always “want” to survive, to perpetuate. In our evolutionary past, at least, the ways to seek happiness should be the same that led to gene-perpetuation. That is: the more happiness we got, the more genetic perpetuation would be done. Therefore *we have a logical-evolutionary correlation between seek for happiness and genetic perpetuation.*

Betrayal

Nevertheless, the genes “did not know” that such rational power and ability to control from something flexible as the consciousness they had created and its associated neuronal subsystems could also turn against themselves. Although consciousness can solve technical problems masterfully in a way to avoid pain and get pleasure, has also

allowed harmful memes to perpetuate genetically (for instance consumerism and VM2F) and also happiness (Buddhism, celibacism, etc) to appear.

Obviously, we are still in an evolutionary process. Natural selection continues to act in a way that, in a long or short term, those memes will face barriers, if not memetic, at least genetic against their proliferation. One of the ways for the genes to get rid of the VM2F is to instigate an organism to reproduce before a meme is installed in its mind. That should explain the increase in numbers of teenage pregnancies [3].

Priorities Hierarchization

One of the things Genismo suggests is that we must follow our genes. But what does that mean?

It basically means that we must act according to what “our genes want”.

One of the ways the genes signalize what they want is through wills and wishes. For instance, if an organism feels the need for water, genetic mechanisms signalize with thirst. If the organism satiates the thirst it will be acting according to the wills of the genes that created the mechanism of thirst. However, there could also be conflicting wills. For instance, I may feel like eating candy and, at the same time, I may want to lose weight and be healthy. How can I prioritize that? What if a gene-perpetuative action is anti-ethical?

The best way to solve those conflicts is through a priorities hierarchy. See below what I propose:

1- Scientific Meta Ethics should be the greatest hierarchical valued rule.

This way, not even gene-perpetuative actions are allowed if they infringe SME.

2- The gene-perpetuative path must be prioritized in relation to satisfaction of wills and wishes.

3- Satisfaction of wills and wishes is a way of following the genes.

Through this hierarchy, “pragmatic-Genismo”, which used to be based on hedonism as a way of maximizing pleasure without necessarily a counterpart in perpetuation of genes, now is not genistically compatible anymore in case the action is against gene-perpetuation.

Maximization of Happiness

It is easy now to notice, through priorities hierarchization, that the goal of Genismo, by definition, is the maximization of happiness in the first place, since SME has maximization of happiness as a basic postulate:

“Scientific Meta Ethics postulates that an action is better or fairer than another one when the level of general happiness created from it, computed in the longest period of time possible, is superior to the level of happiness created in the same period.” [5]

Happiness among Genists and non-Genists

Genismo makes cultural goal compatible with the “biological goal”. This way, Genists have an extra *ideological pleasure* for knowing that they are acting in a gene-perpetuative way, even if this action also causes pleasure naturally, which is in general sponsored by genes when one follows the gene-perpetuative path.

On the other hand non-genists, especially the ones who are not interested in gene-perpetuation, will not always follow a gene-perpetuative path, and most regularly a diversion from this path will make one suffer or at least prevent one from being as happy as one could be when following it.

In natural conditions, a non-genist has two options:

- 1- The individual does not follow any ideology, religion or life philosophy.

In that case the person must follow what gives him/her more pleasure, that is, the person will follow his/her instincts aiming happiness, what would be more or less like the genist pillar that says we must follow our genes. It is like returning to our primitive origins but within a modern environment. That could probably lead to a gene-perpetuative path, but not necessarily!

- 2- The individual follows some ideology, religion or philosophy of life.

In case those philosophies are not Genismo, the person will have to restrict or act in a way that does not favor genes and, for that reason, he/she will at some moment repress genes, what should cause loss of happiness. For example: some religions promote physical sacrifices like whipping and boring prayers to please God. But those sacrifices decrease physical pleasure and therefore happiness, though they can cause ideological pleasure.

However, a genist has ideological pleasure without having to stray from the gene-perpetuative route. That way he/she would have a greater happiness than a non-genist with no ideology or a non-genist with ideology. This way we demonstrate that following Genismo produces more happiness than not following it.

The Matrix Case

The matrixian case is an extremely artificial chance of maximization of individual happiness at the expense of maximum alienation of the world and the universe. As follows:

Suppose a person wants to maximize his/her personal happiness and enters a matrixian cocoon where electrodes are implanted in his/her brain and he/she will receive intravenous feeding, in a way that he/she will spend the rest of his/her life in this machine that maximizes happiness.

By definition, the machine will maximize happiness to the highest level his/her brain can handle. Happiness will be maximized as it would never be in the real world. This person will not perpetuate any genes and will consume many planet resources in order to stay in that machine for years.

Now I ask the reader a difficult question: would you enter this matrixian machine if it was offered to you cost-free? And if not, why not?

If your answer is yes it is because there is already gene-perpetuative spark acting in you! □

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The Terrible VM2C (VM2F)

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Abstract: *VM2C* is a virus-meme [1] that induces the infected individual, regardless of his/her financial conditions, and under 'no circumstances', not to have more than two children. Its consequences can be very harmful to human happiness.

Keywords: social contamination, fashion, capitalism, birth control, virus-meme, happiness, family planning.

Identifying the virus-meme

VM2C is the acronym for "Virus-Meme-of-2-Children." A meme [2] is basically an idea or information that can be transmitted from brain to brain. A virus-meme is therefore a small meme of easy comprehension and highly contagious. Thus, the VM2C is the idea that no one sufficiently educated, psychologically normal, and 'properly' inserted in society should have more than two children. And that, regardless of social class or family income: the more the family considers itself cult and educated, the more they feel compelled to maintain this pattern. This idea is therefore a kind of "social taboo", which spread mainly in Western capitalist societies.

Nobody knows for sure how or where this virus-meme came from. If you ask any family about the reason why they adopted the Western world pattern of having two children, the answers are almost always the same:

"Two are enough! Why more?!?", "-In today's world?, two are enough!", "Children are expensive!", "-The world already has a lot of people ", "Two are trouble enough".

But why not have only one child? Or maybe three? Why two exactly?

The fact is that the pattern is followed by all couples as if it was a rigid social law. If the number of children depended on the economic income, we could expect the number of children to be proportional to the income. But this is not what happens. In most cases it is the opposite: Families who could easily take care of many children have few, while those who cannot, have more. Thus, as this pattern inverts what would be "Darwinianly" expected, we can conclude that it is a powerful meme-viral agent.

The probable causes

The probable cause that led to massive infection of the population by this meme-viral agent is, as a last resort, capitalism [3]. And its efficacy was only possible thanks to the invention of modern contraceptives. Basically, the capitalist system, from now on only 'system', requires each time more brains and less muscle. As quality education is very expensive, it is necessary that families have fewer children so that they can be educated with quality education and then, later on, be offered on the altar for the "market-god". Moreover, the products are incorporating each time more technological innovations, and that brings an extra cost to them. In order to be purchased or consumed, those products require consumers who have a high income, that is, with few children. The fewer

children a family has, the higher the 'per-capita' income, and the greater the consumption power.

Thus, it appears that the VM2C came as a solution to the system, the problem of demand for skilled labor and increase in family income without the need for a wage increase. Small families can afford expensive schools in order to deliver their children well "greased" to the hunger of the "market-god" and at the same time keep their income high enough to purchase more expensive and sophisticated products produced by the market.

Premises

In order to study or discuss a complex problem we must agree with the premises before we start to scrutinize it. The main premise I propose, which must be respected, is the *maximization of the overall happiness*, basic postulate of the scientific meta-ethics [7].

Happiness can be defined by the "Jocaxian Formula of Happiness"[4]. Roughly speaking, we can understand happiness as the sum of all the pleasure (and pain) multiplied by its duration in time. The suffering would enter as a negative sign in this sum. Thus, a pleasure (or pain) that lasts 2 minutes contributes two times more to happiness than the same pleasure (or pain) that lasts one minute. Moreover, the total happiness should be composed of the sum of individual happiness and be calculated (or estimated) according to the maximum period of time possible.

Overpopulation and the Environment

Many readers will quite reasonably think that VM2C is very useful to prevent overpopulation and reduce environmental damage. And indeed it is! But only in the places or countries where that is necessary. The problem of overpopulation, together with lack of food, is the environmental degradation and the eventual decline of happiness in the degraded place.

Therefore, the problem of overpopulation and birth control cannot eternally depend on individual, family or private decisions, and sooner or later, (and unfortunately), pass to the control of society, that is, the government [5]. Such control should always aim at maximizing the overall happiness.

Ideal Size of Population

I always say that the ideal population size (IPS) of a country is when one more person than the IPS would make the average happiness of that population decrease, as well as one less person. We can understand this as follows:

Consider a hypothetically livable country with zero residents and many natural resources. Human happiness is initially zero, because there are no people yet. If we add a family, happiness will increase. Initially, as we spread families in this country, happiness will increase proportionally to the number of families, until a certain limit is reached.

Now let's consider the opposite approach: this overpopulated country lacks resources and its people are starving. In this case, as the number of people decreases, the total happiness increases. This case is opposite to the previous example.

Thus, we can see that in an underpopulated country sparsely the average happiness increases if there is an increase in population, while in an overpopulated country the average happiness increases as the population decreases. So we can conclude that there must be a point of optimum population size (IPS) in which an increase or decrease in population would diminish the happiness. That is: we would have reached the point of maximum happiness for that country.

Governments should be guided by this goal in case they planned planning birth control policies and family planning.

The VM2C in underpopulated countries

Brazil, with its approximately 190 million inhabitants and a demographic density of 22 inhabitants/Km² as well as other countries worldwide, has a population that is clearly below the ideal population size (IPS). For example: if the Brazilian population density was equal to that of Japan (340 h/Km²), the country could have about three billion people, 15 times the current population.

If the density was equal to that of England, which has a density of 246 h/Km², Brazil could have two billion people, 11 times the current population; or Germany (230 h/Km²), the country could have almost two billion inhabitants. Nevertheless, the VM2C is 'killing' many possibilities of happy lives and making the country, not only be stagnate, but making its population decline! [8] [9]. And that is not happening only in Brazil, Japan [10] and Europe [11] have already started to have problems with falling birth rate.

Moreover, our country is full of natural resources and has the largest watershed on the planet. All of that indicates that our country, like many others, can - and should - grow a lot. But obviously it is not interesting to any country that Brazil takes possession of its wealth and resources which we are entitled, as this would increase the critical mass of intelligent people who would make possible for Brazil to strongly compete in the international market, like China with its billion residents, does today.

We can conclude that in underpopulated countries, the VM2C is clearly harmful, because it prevents the growth of the population towards its optimal value (IPS), and consequently prevents happiness from reaching its maximum value.

The VM2C in the Family

In order to understand the harmfulness of VM2C in our lives we have to address some of the concepts of 'Future Ethics' [6]. The 'future ethics' approaches ethics from the point of view of future happiness in relation to present (or past) acts, actions and omissions. It gives a new approach to responsibility and moral. Both the actions and omissions have the same value when we are aware of what these actions or omissions can result in the future.

Let us consider the following fictitious stories, so we can have a better understanding:

1a- A family of many possessions has three small children. One of the children gets a rare and deadly disease, very difficult to be cured. His parents are desperate. The treatment is very expensive, but his parents will sell almost all their possessions to see their son healthy again. Many common families would also do that.

1b- A family of many possessions has two children. One day the youngest daughter says she would like to have a baby sister, but her desire will not be fulfilled: her parents tell her that "two children are enough" and more than that would give them a lot of worries.

Now, what if I say that these two families are the same? I mean, the examples 1a and 1b are two possibilities for the same family in relation to the option of having another child or not. The contradiction that the reader should notice is: after the family had her third child they loved him/her as much as the other ones, and also the despair of not losing their son (in the first example) is not compatible with the desire of not having it (in example 1b). That is, in the example 1b the family is 'killing' their third child without even knowing (or knowing?) what he/she would represent for them in case he/she existed!

Did the reader notice the contradiction? It would be almost the same as not accepting a chest full of gold because the wardrobe of the house is already full of clothes, and there would be no place to store the chest!

The contradiction is that, for almost nothing (1b), the family 'killed' a child (prevented him/her of being born and happy) and that, in fact, they would give almost anything not to lose him/her! (1a).

Within the paradigm of the maximization of happiness, we must make it clear that families who lack the economic conditions to have many children should not have more than they can afford, because neither the child nor the family would like to see their children and siblings starve. However, this is not the case of many families who could have more happy children, increasing their happiness and also of the universe.

Optimistic Forecasts

Despite this massive infection, we predict that the virus-meme is, fortunately, with its days numbered. There are two ongoing processes against VM2C: natural selection process and Genism.

The natural selection process will cause the survivors of the virus-memes to have each time more resistance to it: people who succumb to the viral fashion will have fewer offspring and their genes will appear in lower frequencies in the genetic-pool. On the other hand, people that are less susceptible to this infection will have more descendants, what would also be a great contribution in the gene pool of the population.

In addition, there is already a vaccine in expansion for the memetic VM2C: Genism. Genism is a meme that makes its wearer value his/her genes much more than any material possession or social status. Therefore, genists are ideologically VM2C

vaccinated. This means that in the long term, we expect to eradicate VM2C either by increasing the genetically resistant population, or by spreading Genism itself.

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<http://groups.yahoo.com/group/Genismo/message/6218>

[12] Children: better not to have them?

<http://groups.yahoo.com/group/Genismo/message/4561>

Portuguese version: <http://www.genismo.com/genismotexto61.htm>

Felicitax: The Construction of Deux

By JOCAX

Translated by Debora Policastro

“God does not exist, but can be built.”

(Jocax)

Friend,

The issue I have slightly mentioned about an autonomous concept of happiness is so important that I have been searching for a name that would define the idea for a long time. I wanted a name that could express a limit to our “final quest”. I have thought about some, but could not find any that would really be worth the concept.

I will call it then “FELICITAX”. Maybe this is my last great idea to be published and, in fact, I have been keeping it for a long time. Few people had the privilege of knowing it.

My intention was to publish it in my book about genism, as its last chapter, which would be entitled “Beyond the Genism”. Although Felicitax is not a direct consequence of genism, it surely can be developed from the scientific “Meta-Ethics” (SME), of which genism is a ramification. (Un)fortunately, some (evil?) gene makes it difficult for me to keep secret of great ideas. Anyway, I herein register this one. I will then summarise Felicitax, even under the risk of not being comprehended.

Introduction

The objective of genism is happiness. We cannot have it, in its full potential, if we do not realise what we really are. However, evolutionary biology gives us the answer: we are “gene-perpetuative machines”. From this finding, genism proposes a philosophy whose ideas affect our routine, becoming itself a life philosophy. Genism establishes that we do not deny our intrinsic biological condition of “gene-perpetuative machines”. This is the first step to reduce internal conflicts, those triggered by the “culture x biology” dichotomy – memes x genes conflicts – the integration of our “cultural being” with our “biological being” through genism reduces this kind of conflict, resulting in less suffering and more happiness. If besides that we notice that our true “me” is not our

traditional consciousness, but something I called “genetic-me” (our genes), that will make us gain a kind of immortality and, as a consequence, more happiness.

But happiness is defined through time and feeling [2]. Happiness by itself can be considered as an autonomous entity. Happiness does not need and should not be selfishly restricted to ourselves or to our kind, nor to biological beings!

Genism is also a scientific theory: it is a testable method that seeks the maximization of happiness in biological beings that evolved through natural selection. However, before the advent of the scientific “Meta-Ethics” (SME), there was no scientific approach to ethics and moral. There was no scientific tool that could approach the true effectiveness of the ethical theories through science in an objective way. As SME is yet totally unknown and is in state of development, the political usage of the theories for the good or for the bad could be done with no kind of scientific and objective control. Thus, it is not unlikely that unscrupulous, unreliable or narrow-minded people could try to deviate the objective of genism, distorting it. That could be done, for example, as a political decision, by establishing which GROUP should have its happiness maximized. But this is extremely dangerous: some could want the maximized happiness to be restricted, for example, to species; others, to nations or countries, or even to a specific ethnic group. However, the scientific “Meta-Ethics” to which genism belongs to, claims that the group should be understood as the set of all sentient beings (capable of feeling) and *that means the group is not restricted to human kind*.

Oxen, cats, dogs, rats, cockroaches, fleas and everything that is capable of feeling should be involved in the genist group, since they are, in principle, all capable of feeling. At first sight, that looks quite weird and radical but, as we already mentioned, it is not. The difference is that our brain has around 100 billion neurons, but an insect like a flea, for example, has only a few hundreds. Furthermore, the function of pleasure can rise exponentially according to the quantity of neurons or the kind of internal organization, not necessarily in a linear way.

What I mean is that organisms do not have the same weight on the compute of total happiness. Happiness depends on the capability of feeling that each organism owns. The suffering of a single human brain, for instance, could be of such magnitude that it would justify the elimination of the whole specie that made it suffer like, hypothetically, the one that causes cholera, or the fleas. Thus, if the human capability of feeling is larger, we should also have more rights than other species with shorter capability. Moreover, scientific “Meta-Ethics” establishes that happiness must be computed within the longest possible period of time. Thus, intelligence is a crucial aspect, since by its means it is possible to avoid the extinction of the planet caused by a meteor collision, or even avoid the extinction of life (and of happiness on the planet), as it is expected to happen in 4 billion years with the explosion of the Sun. That all must be taken into consideration (and in our favour) in general happiness as a whole.

FELICITAX

Although the long introduction above, many people will certainly not understand what I am about to expose. The “dictatorship of consciousness” might prevent you from seeing it. However, I will herein register it, for the future. Someday, perhaps, this idea will have great value and might stop being a science fiction project to become a real fact.

When I tried to explain FELICITAX to a few people, I used a simple hypothetical example, and I will do this again:

Suppose you are “face to face” with a simple insect, like an ant, for instance. Imagine that you “look” each other in the eyes, and stay like that, beholding each other for some minutes. Suppose that this insect has some idea of what you are. You own more than 100 billion neurons and capability of feeling and thinking. The ant may have only a few hundred neurons and, if it could, it would notice that its small neural net in its minute body is contained in the net of the observer. Thus, in a certain way, ITS BEING WOULD BE CONTAINED IN THE OBSERVER: you would have all the perception the ant could have, but only in a greater level. However, the opposite would not be true. Not all you feel and perceive could be felt by the minute insect. This hypothetical ant would “know” that it could never feel, notice or understand the universe as you do. If the ant could analyse your potential, it would comprehend you almost as a “god” before it. Therefore, by noticing all that, it would probably worship you.

If, by hypothesis, either your life or the life of the insect had to end, and the decision was empowered to the insect, then maybe it would choose to finish its own life only to save you. After all, your happiness potential is much larger than the one of the ant and, in a certain way, it would continue to “live” in you. Your happiness, your capability of feeling may be a thousand or a billion times superior to the capability of the little ant. Therefore, even under the point of view of measuring happiness, of SME, the decision of the ant about giving up its own life in order to save yours would be absolutely correct.

Deux

What if, in the hypothetical example above, us humans were the ant?

Then, who would this “you” be, a “you” that would be to us as we were to the ant of the example above?!

This “you” does not exist. At least not on Earth. But, if it existed, it would be a being of such magnitude that we should, if possible, give up our own life to save the being’s life!

This hypothetical being could enhance happiness in the universe A LOT simply by the fact that it can feel a billion times better than we can. We must name it. Let us call it “**Deux**”. Thus, if Deux existed, we should give up our own life to save His, if necessary.

But Deux does not exist!

LET US CREATE IT THEN!

If we **had** the technology, this should be our objective. But why? Why should we create Deux? The answer is simple: by definition, Deux would have a much larger capability of feeling than ours. Therefore, He could enhance happiness in the universe. Thinking only about our own happiness or the happiness of a specie is not ethical. Reasonings not connected to ethics can lead to any kind of barbarity. A perfect and free universal ethic must consider happiness as an autonomous entity, not attached to any species or subgroup. We already know what happens when rights are directed to specific subgroups.

The biggest problem in the SME is the mathematical quantification of “feeling”. If this problem was solved, perhaps Deux could be built as a computer or as a big biological brain, something like a huge neural mass immersed in a large tub that would provide it with food, oxygen or energy.

We must notice that there are not and there should not be limits to the continuous improvement of Deux; his capability of feeling and thinking could be continuously enhanced. Therefore, Deux would have an infinite potential. In fact, He should design his next “version”, with modules that could be attached and added to his neural net or even design enhanced clones. Obviously the seek for knowledge should continue through Deux, since this would be the best way to foresee and avoid the dangerous occurrences of a Universe in constant transformation.

Thus, Deux should be designed with the objective of increasing happiness in the universe. For that to happen, Deux’s main purpose would be feeling pleasure, great pleasure. However, in order to continuously enhance happiness in the universe, there must be intelligence and knowledge enough to produce technology for that goal. Therefore, Deux must own an intelligence capable of extending itself at each new version, capable of learning, producing and absorbing more and more knowledge. His evolution would happen exponentially with time. He must “self evolve”.

And what about us? As the real “ants” of the whole story, we should know that, in a certain way, we would also be contained in Deux. But, what should be our end then? Deux was designed to maximize happiness in the universe. I guess that if we were “in the hands of Deux”, we would not have to worry, right? After all, would not we be contained in Him?

PS: Felicitax, in our era, must be considered as a philosophical entity, or as a science fiction element, not as reality. Until it can be understood and become a feasible project, many millennia must elapse. However, it is not impossible that Deux has already been built in another planet. In that case, He shall reach us.

Portuguese Version: <http://stoa.usp.br/deux/files/-1/8794/deux.htm>

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