MOLWICK

MOLWICKPEDIA

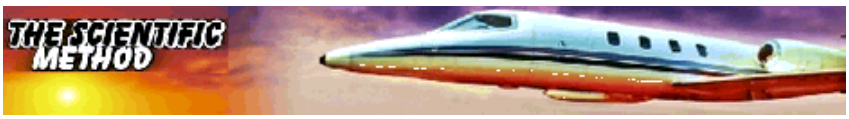
Free online science books

Philosophy of evolution, history and life

Biology of the brain and psychology of cognitive functions

THE GLOBAL SCIENTIFIC METHOD

1. **Philosophy of science**
   - The evolution of science
   - Scientific knowledge
   - Knowledge sources
2. **The scientific method**
   - What is the scientific method?
   - Deductive and inductive reasoning
   - Stages of the cientific method
     - Presentation and steps of the cientific method - **Jump** method
     - Validation: Hypothesis-testing + The **Veus vei** method
     - Acceptance stage - Sociology os science
3. **Methodology of complex systems analysis - The sixth method**
4. **Historical errors of the scientific method**
   - Research methodology
     - Social psychology and sociology of science in biology
     - Scientific methodology and the theory of evolution
     - The methodology of physics
     - Scientific research method of Modern Physics



I. PHILOSOPHY OF SCIENCE

I.1. Science evolution

Why has the existence of planets not been scientifically accepted until they have been detected as seeming to be planets, and yet it has been accepted that the speed of light is constant in the entire universe when it has not been proven either?

Of course, it can be said that the probability of planets existing outside of the solar system was the unit for the probabilities that the human brain normally handles.

In my opinion, the logical reasons for their existence are much more powerful than the new discoveries that indicate their existence.

I imagine that **science** did not accept it as true because it was not necessary nor urgent, but in practice, most humans thought that they did not exist or had more doubts than what was reasonable, which is quite different from being completely certain. On other hand, the possibility of certainty can always be denied due to the influence of **philosophy**.

It is the same with the existence of organic life, from a logical point of view, there can be no reasonable doubt of its existence outside of our planet or solar system. This is due to the game of purely mathematical probabilities.

Other more modern or classic concepts of life, according to how you look at it, have another more immediate problem in that its existence is not even acknowledged nor can be acknowledged scientifically on Earth. Clearly another way is to deny it such as what a fair share of scientists attempt to do because with denial the same thing occurs as with affirmation: **Proof is needed!**

If we contemplate the concept of science, or simply ask ourselves what is science, we will have to turn to an external discipline: **the philosophy of science**.

The Philosophy of science is understood as a level of reasoning and not as an academic discipline that utilizes many Latin or Greek words. The *Philosophy of science* is like the self limitation that the little boy philosopher sets for himself in order to discover those wonders of the new world that have profound common sense.

To maintain the progress of science, the temptation of easy explanations of reality must be resisted, as well as to adamantly reject certain elements of witchcraft or black magic within the domain of the **philosophy of science** such as:

- Empty space with content.
- Negative energies.
- Objects that are in two places at the same time.
- Tautologies presented as scientific theories.
- Fictitious forces.
- Effects preceding their causes, or things that go out before going in.
- Instruments that change their measurement without their measuring mechanisms being affected.
- Forces at a distance or pure telepathy.
- Dimensions and imaginations that cannot be confirmed or refuted.
- Effects on the physical world of pure mathematical abstractions.
- Elements that disappear in black holes by black magic.
- Games with the language, and scientific requirements for how language is expressed in physics.

Perception, **intuition**, and **logic** are the three weapons used by man in order to strengthen his control over nature. As we will see, **the scientific method** of the philosophy of science has three principal variants based on these three instruments.

In this respect, perception and logic are the two polar concepts while intuition would be situated in the middle which allows it to formulate theories that in some cases surpass the theories developed through logic and perception, or the combination of both. To a certain extent all theories are a combination of the three.

On the other hand, even from the point of view of the *philosophy of science* we cannot deny that at times it has been **madness** that made it possible for **science to progress** by proposing topics that previously seemed impossible. On other occasions what has made science advance has been **love** which is perhaps what was being referred to when *Newton* related the wonderful story of the apple.

Anyway, we can leave it as a small part of all that impelled me to formulate the*General Theory of the Conditional Evolution of Life.*

Given the importance of an accurate interpretation of the scientific method and the objective of personal neutrality upon evaluating the theory introduced; a special section has been included relating the limits of knowledge from personal and social psychology and the sociology of science that could affect the acceptation of one or

another evolutionary theory.

The impulse must have been so powerful that the outcome of the *General Theory of the Conditional Evolution of Life* has naturally been the exposition of the *Global Cognitive Theory:* divided into the four on-line books*: the brain and computers, intelligence and creativity, memory and, lastly, will: the decision-making processes and artificial intelligence.*

In order to demonstrate so much theory about the **elegant intelligence**, with greater success than expected, I extended the *IDI Study* on the statistical analysis of the *Intelligent Design of intelligence* based on the longitudinal data from families' IQ (father, mother, children, siblings and twins) which exists thanks to the *Young Adulthood Study, 1939-1967*.

Since I was satisfied with that, and I had discovered the *Equation for Love*, I decided to try to learn the *Theory of Relativity* without abandoning my concept of the philosophy of science and, consequently, I have elaborated the *Theory of Global Equivalence* in order to substitute it before some stellar disaster occurs.

Finally, since there were arguments on the **philosophy of science** in all the books in order to try to understand why the scientific method had failed considerably, and with the acceptance of **scientific paradigms** and pretty weak theories from the point of view of common sense, I have decided to include them in the present book dedicated to the aforementioned *global scientific method.*

It should be mentioned that there is a *fairy tale of terror,* which is better off ignored to the possible extent about the sly ones of the Inquisition. *He who warns is not a traitor*!

At the same time, the **current defense of the scientific method** seems important because it is one of mankind's and life's great conquests in general. However, I think that it would be convenient to cast off some of the nineteenth century millstones and twentieth century obstacles, among which their atheistic complexities and utilitarian shroud can be emphasized respectively.

For sociological motives, I think that the **philosophy of science** has been distorted in the twentieth century due to the almost constant rejection of unquestionable advances of logical scientific knowledge by an unattainable idealistic perfectionism while the illogical is embraced as far as it represents the interests of individuals or groups. Perhaps it is due to the very development of the philosophy of science that it finds itself in the stage of intrepid adolescence.

I.2. Scientific knowledge.

An element of personal knowledge is the *methodological doubt*, since it is healthier to understand things than to learn them. But, of course, one has to place certain limits on personal knowledge as there are things that we don't understand but we accept them because they are generally accepted. To this extent our **personal scientific knowledge is** more limited than general scientific knowledge.

What I want to express is the distinction between general beliefs, although they are of scientific character, and what one thinks, believes, or accepts as solidly valid; so solidly that it cancels out the possible contradiction with the *generally accepted scientific knowledge*.

On very rare occasions throughout my student life, I had reasonable doubts about the veracity or correctness of what I was studying when the subject matter made up part of **generally accepted scientific knowledge**.

The first thing that I remember was **Darwin's** theory of evolution due to random mutations and the theory of the dominant and recessive genes which are referred to as the **Laws of Mendel**. Luckily, I have been able to develop a structured set of alternative ideas in line with my personal knowledge and my reflections about life, and present them in the book on the *General Theory of the Conditional Evolution of Life*.

The second time I doubted generally accepted scientific knowledge, which, due to its characteristics, is very similar to the previous, was the supposed **non-hereditary character of intelligence** defended by the official doctrine of psychological and economic sociology. I, on the contrary, have always thought that there is a great influence of genetic inheritance on intelligence due to my education, experience, and nature.

Also, in this second case I have been able to write a four-part series on my knowledge about thought, titled the *Global Cognitive Theory,* in which a statistical work is included in the annex which, in my opinion, scientifically shows the fundamentally hereditary character of the **relational intelligence** or intelligence in the general sense, and the very existence of a theological or finalist evolution.

Albert Einstein's relativity of time has been the third element that wasn't clear to me when I studied it, and even less clear when, subsequently, I tried to comprehend basic explanations in other books about Modern Physics. The problem is not that it wasn't clear to me but rather that what was clear to me was that it seems that they don't know what they are talking about. *Excuse the expression*!

Finally, besides perfectly understanding the concept of time relativity of Modern Physics, I don't like it, and they seem more like an attempt to complicate the

unknown. I say problem because other ideas occurred to me which I think can be interesting to express and, logically, it socially has its *psychic integrity risks* due to dealing with **physics** of an area of knowledge with very special characteristics; although we must keep in mind that **biology**, **genetics**, and **neurosciences** have progressed their technique a lot as well lately.

Nevertheless, I should recognize that my problems with relativity, when I didn't understand it, were much more common than what I possibly expected from a theory supposedly based on scientific knowledge.
Now that I have discussed the doubts that have emerged during the search for personal knowledge in my youth, I don't want to finish without mentioning one more, given that I think that there have been four doubts of great transcendence for being linked to essential concepts of our life, such as love, time, evolution, intelligence, and inheritance.

The last great methodological doubt refers to the famous expression of the ***Golden Age of Castilian literature***; in my opinion it never made sense thinking that the Castilian literature that followed was inferior. I would say that the famous golden age corresponds to an adolescent stage and of rapid growth, but not of maximum splendor.

Better said, I hope I won't have the urge to write a book about growth and basic characteristics of languages as vital impulse systems.

I.3. Knowledge sources and its characteristics.

Humans have an innate tendency for learning.

The commonly categorized **popular knowledge** is so broad and complex that it uses contextualized expressions in order to transmit concepts that otherwise would be very complicated or would take too long. An interesting example of the thousands of expressions is: *curiosity killed the cat* because it is very similar to the phrase from the previous paragraph but does not commit to anything.

On the other hand, from the first sentence one could begin to question its accuracy: *Why only humans? Is it definitely innate? Which part is learned and which part is instinctive? Is it only a tendency or is it an intrinsic and permanently operative characteristic? Is it produced only in the consciousness or also in the unconscious?* That is how we would proceed until….ha! We forgot; *what is a being?*

More formally, if the origin of human knowledge comes exclusively from

experience (*empiricism* -**Locke**), or the contrary (*innatism* -**Leibniz**), or a past engagement of both (*apriorismo* -**Kant**).

Let's see then. The effectiveness of the popular knowledge, however, has a great inconvenience due to its characteristics in that it is unreliable and very often ironic because a slight contextual variation can change its meaning. In other cases, it just attempts to cheer up life with humor by means of ideas crossing the mind, and at times even deliberately inverting the elements of cause-effect, etc.

In order to avoid this entire series of disadvantages of human knowledge, the **scientific method** has been developed which, in its strict version, counts on three basic principals in order to be accepted among the majority of the scientific community. They also tend to note various specific methods according to the subject studied with greater or lesser acceptance, and normally they tend to refer to systems with complex characteristics.

It could be said that popular knowledge is to the scientific method what intuition is to logic in that both share the same **sources of knowledge**: *perception*, *intuition*, and *logic*. They share problems related to the contextualized elements and to the difficulty of the cause-effect separation.

Furthermore, *creativity* can be included as a source of knowledge as much popular as scientific. An example of a source of popular knowledge would be the phrase: *think the worst and you won't be far wrong,* and an illustrative example of the creativity as a source of scientific knowledge would be: *the madness of genius*.

The outline of the **elements of the scientific method** aims for objectivity and certainty in its conclusions, which is why errors are not usually made. On the contrary, popular knowledge does indeed make them but, on occasions, it is much more efficient in transmitting a complex idea; in fact, we all use it on a regular basis.

In respects to the characteristics of the knowledge sources, **logic** should not make mistakes either; otherwise it would no longer be logical and would then be considered pure speculation.

The source of knowledge of **intuition** does indeed make mistakes, since despite not having the desired certainty of the reasoning, it does not cease and it continues with partial arguments reaching conclusions that it cannot confirm nor deny. Upon freeing itself from the servitude of certainty, its potency is much greater than that of logic.

As it accumulates partial arguments, its margin of error increases and, therefore, its efficiency decreases. However, at times, after long reasoning or thought in which the final conclusion is associated with an elevated margin of error, the result is an interesting fact which allows its efficiency to increase significantly. In view of the conclusion, we find a different way that increases reliability. But in this case we find ourselves more in line with **creativity** than with intuition.

This could be the case of the *General Theory of the Conditional Evolution of Life* in that its philosophical approach is rather adventurous and clashes with the most common beliefs and approaches within society. Its hypotheses of genetic functioning are quite bold, etc., but, eventually… *it proposes a means of empirical testing! And accomplishes it!*

Of course, in certain cases, the evidence against a position can be overwhelming and, even so, it persists in following the reasoning with a margin of almost intolerable error. It could be said that, if they eventually manage to discover a way for empirical validation, **madness** has been a **5th source of knowledge, or what you could consider in a certain way the same as love, or better said, madness of love, or….it is better not to put past examples.**

Another interesting and distinct characteristic of the binomial perception-reality is that which is related to the connection between scientific theory and reality, and is extensively dealt with by what is called the **Vienna Circle**.
There are three interpretations of the relationships between **theory and reality** (observation): *reductionism, realism,* and *instrumentalism* or *conventionalism*.

Reductionism circumscribes the **scientific theory** to the world of the observable converting itself into a simplification of observations. *Realism* allows certain entities not be observable but requires that they be real, that is, that they exist independently from the mind. On its behalf, *instrumentalism* or *conventionalism* deems it a useful instrument that allows making predictions.

Sincerely, utilitarianism which is preferred to rationality seems more technical than scientific, but I suppose that they are trendy topics even though they could last centuries.

II. THE SCIENTIFIC METHOD.

II.1. What is the scientific method?

The first characteristic of the scientific method is its conventional nature which

serves as a framework of the generation of objective knowledge. That is why multiple characteristics exist according to the perspective with which they are classified, studied, and even named.

The expression scientific method is used with different meanings, and, very often, abuses it in order to justify a specific personal or social position with relative ignorance about the complexity of the concept. As its very name indicates, it represents the methodology that defines and differentiates scientific knowledge from other types of knowledge.

The philosophy of science creates the scientific method in order to exclude all that has subjective nature and, therefore, is not capable of forming part of what is called scientific knowledge. In the last analysis, that which is accepted by **common sense** itself is why it obtains general acceptance by the scientific community and society.

Clearly not everyone will agree with the previous paragraph as there are various trends of the philosophy of science that are, in turn, derived from the different concepts about reality, perception, theories, etc.

On the other hand, we know that there are things whose nature is precisely subjective. The scientific approach to these elements is complex and normally carried out through the lesser scientific methods which are designed for specific branches of knowledge.

It deals with those three basic types of scientific method (*inductive reasoning*, *deductive reasoning*, and *hypothetic-deductive or hypothesis testing*) that tend to be applied in the natural sciences (physics, chemistry, biology, etc.) in contrast to the commonly categorized social sciences (economics, politics, etc.) Among these methods we can cite: *hermeneutical, phenomenological, dialectical, functionalism, structuralism, etc.*

What is scientific method? Actually, despite receiving the same designation as **scientific methods,** we are referring to things that are no longer different but situated on a different scale. Paradoxically, if we talk about the world of transportation technology, these nominative clones were referred to in a case as types of basic parts like nuts or bolts, and in another as types of vehicles like motorcycles, cars, trucks, boats, planes, rockets, etc.

In other words, there are three basic types and the rest are types composed from the previous that try to define a complex structure and that, therefore, are found on a macroscopic scale relating to the first.

Likewise, it is obvious that the concept of time is associated with that of life and,

by extension, with that of love. *But the existence of love is not scientific!* Nor do we know very well what life is about. And what are the vital impulse systems?

Here we come to an existential problem with certain branches of science that don't want to and can't recognize that life and love exist with the corresponding exercise of their freedom. It is as if freedom were the enemy of knowledge and science in that it attempts to discover laws that explain events and where it fails it imposes its personal god: **randomness**.

We find a prototype of **agnosticism** in **Laplace** (1749-1827) when he says: *"If in a particular instance we become aware of the exact situation and velocity of all of the particles of the universe, we could deduce through calculations all of its past and future"*. In my opinion, this affirmation needs a greater **act of faith** than the contrary simply because although freedom may not be very scientific I feel deep down that it is.

Most likely, it is about time to change and perfect the very concept of science and what is the scientific method. Not always when being very orthodox or theoretically rigid best practical results are achieved; frequently, the relation is reversed when a certain limit is surpassed.

II.2. Inductive and deductive reasoning

The **deductive reasoning**, **inductive reasoning**, and **hypothetic-deductive or hypothesis testing** are the three scientific methods, which are referred to by the generic name of the **scientific method**.

The first thing which caught my attention was the fact that the first two *scientific methods* have a problem as the name is difficult to distinguish, given that in a language context they can represent just one concept with two statements: *reasoning* in one direction or the other, from general to specific, or vice versa.

Logically, the problem derives from the conceptual difficulty of clearly separating the elements of a scientific reasoning from the other; obviously, the chosen terms do not help retain these two concepts of **scientific method** or **scientific reasoning** in the memory. The first name of the *third scientific method* does not help much either.

Both **deductive reasoning** and **inductive reasoning** can go from general to specific and vice versa, in one direction or the other. Both use logic and arrive to a conclusion. As a last resort, they always have philosophic substratum elements. Both tend to be susceptible to empirical testing.

Although the **deductive reasoning** or deductive logic is more appropriate of the formal sciences and the inductive reasoning of the empirical sciences, nothing prevents the indiscriminate application of a scientific method, or any other method, to a particular theory.

In my opinion, without trying to create a controversy on this subject, the fundamental difference of the *deductive method and the inductive method* is that the first aims to indicate, through pure logic, the conclusion in its entirety based on a few premises. So that the veracity of the conclusions is guaranteed; that is, if the applied logic is not invalidated. It is about the axiomatic model proposed by **Aristotle** as the *ideal scientific method.*

On the contrary, the **inductive method** creates laws based on the observation of the facts, by generalizing the observed behavior; actually, what achieves is a type of generalization without obtaining a demonstration of the aforementioned laws or set of conclusions through logic.

Such conclusions could be false and, at the same time, the partial application of logic carried out could maintain its validity. For that reason, the *inductive method* needs an **additional condition**; its application would be valid if there is **no case** that does not fulfill the proposed model.

The *hypothetical-deductive method*, or the hypothesis testing, does not raise any problems in principle, given that its **validity depends on the results of the appropriate empirical testing**.

The ***hypothetical-deductive method*** tends to be used to improve or clarify previous theories according to new knowledge where the model's complexity does not allow logical formulations. Therefore, it has a predominantly intuitive character and needs, not only in order to reject a theory but also to impose its validity, the contrasting of its conclusions.

One could suggest the deductive reasoning, intuitive reasoning, and hypothesis testing as denominations for the three main variants of the scientific method, or for that matter, any set of words that refer to their fundamental differences or elements and do not raise any problems for the linguistic memory. However, in the exposition I will stick to the nomenclature generally used.

The *General Theory of the Conditional Evolution of Life* fits in perfectly with a theory based on the **hypothetical-deductive**, or **hypothesis testing method**.

Darwin's theory of evolution, on the other hand, would fit in the inductive reasoning; but despite finding opposing examples, the scientific community does not invalidate it but adapted to square off any triangle. *Why would it be*?

As was previously mentioned, every theory should be able to withstand refutation; however, a theory that does not allow refutation by any conceivable fact is not scientific. The **impossibility of disproving a scientific theory is not a virtue but a defect.**

II.3. Steps of the scientific method

Within the three **basic types of scientific method** (*inductive reasoning, deductive reasoning, and hypothesis testing or experimental study*) each one has its own steps or stages and depends more or less on each author or form of describing and presenting them.

In the previous section I have presented some criticisms while speaking about some elements of reasoning in the scientific methodology and the complication that its terminology poses for the memory. Now then, when speaking about **the steps of the scientific method** something similar occurs once again: more than steps of the scientific method, each method has its own staircase.

In recognition of the fact that the topic of the methodology of science is very complex and full of nuances with serious implications, and given the importance of the scientific method, I am going to undertake the task of making my own classification of the stages, the **basic scientific methods**, and their elements in an attempt to simplify it for non-experts or laymen.

The tree of scientific knowledge would consist of the following:

STAGES
METHODOLOGY OF SCIENCE

1. **Presentation and steps of the scientific method**
   - Planning
   - Elements of reasoning
     - Logic
     - Intuition
     - Creativity (**Jump** and madness)
   - Conclusion

2. **Validation stage**
   - Hypothesis testing (Verification or Disproof)
   - Common sense (Galileo – **Veus vei**)

3. **Acceptance.** (Sociology of science)
   - Scientific Community
   - Society as a whole

There is no doubt that this tree of science would have leaves of all shapes and colors. Let us look at some comments and clarifications about this tree.

From this perspective, although *the element perception* does not function equally in the different proposed methods, nor does it represent an essential difference of the same ones; moreover, to a greater or lesser extent it will be present in the first step of *planning*.

Secondly, I think that the **stages of the methodology of science** reflect the importance of the phases through which a scientific theory passes until becoming generally accepted and goes on to make up part of the scientific knowledge.

In spite of this, it is worth noting that I have divided the essence of the *experimental study or hypothetis testing* of the two other basic methods by placing them into different stages. **Galileo** had mentioned this division, and, actually, there are only two: the *deductive reasoning and the inductive reasoning*; and two processes: the *hypothesis testing* and the *rational*. I agree with **Galileo,** although I prefer to refer to them as **logic** and **intuition** respectively, which is in line with the importance of the different mental elements or processes that support them and the reliability associated with the mentioned processes.

I have also added the **creativity** method because it uses elements of the intellectual capacities that clearly differ from logic and intuition.

Even a theory based on the deductive reasoning should pass the **validation stage** since it can be refuted by some logical contradiction on the basis of the planning or an error in the applied logic.

II.3.1. Elements and steps of the scientific method

The intuitive reasoning comes closer to the logic reasoning or logic-deductive reasoning when intuition functions with very high reliability; in this case, it would be the equivalent to the classic *inductive reasoning*. On the contrary, when reliability is lower, it would be more similar to the *experimental study or classic hypothesis testing* due to both of them appearing a little like a system of trial and error.

The three **steps of the scientific method** that form the first stage of the methodology of science *presentation* are: planning, reasoning, and conclusion, which are common to the three proposed methods, and the main difference of these steps is situated in the elements of reasoning regarding the type of employed arguments.

The novelty here is the proposition of the new **scientific method Salto or Jump,** or that of **creativity** which does not have its base in logic or in intuition but rather in the absence of them, or even in deliberately leading them to the contrary. When the intuitive reasoning functions with low reliability, we begin to come close to the Salto or Jump method. It is a method that the popular knowledge knows very well, and sums it up in the phrase: *think the worst and you won't be far wrong.*

The classifications of the second step of the scientific method, the *elements of reasoning*, are almost never simple or perfect because the words tend to have various meanings, and, at times, are too broad or too strict. For example, sometimes creativity leads to a very strong built-in logic, and then we would find ourselves outside of the *Jump method.* Other times, creativity is so removed from logic that it is actually madness, or simply deals with an expression of love. For these reasons I like the term for the Jump method even though it is much more technical to call it the creativity method.

It could also be called **the madness or love method** because it can be the cause of its use. Sometimes we can imagine that something is the contrary of what it seems, although almost impossible, and the argument can be repeated. Logically, the reliability of the conclusion will be very poor, but at times an interesting surprise can result: the conclusion is confirmed contrary to what was expected.

Then, in view of the positive verification, we find a different way than what was followed in order to be able to verify the theory; for example with the logical or intuitive reasoning, but the importance of this scientific method or originality has been the first step to reaching a conclusion. The second way would only be a tool for preparing the hypothesis testing of the validation stage of the proposed scientific theory.

II.3.2. Validation of a scientific theory

- **The hypothesis testing or experimental study**
- **The Veus Vei method**

The second stage of the scientific method is the validation of the scientific theories. When speaking about the stages of the scientific method, I have mentioned the placement *hypothesis testing* of the ***experimental study*** in the second stage instead of next to the other two classical basic methods according to this classification of the scientific methods quoted by **Galileo**.

STAGES
METHODOLOGY OF SCIENCE

1. **Presentation and steps of the scientific method**
   - Planning
   - Elements of reasoning
     - Logic
     - Intuition
     - Creativity (**Jump** and madness)
   - Conclusion

2. **Validation stage**
   - Hypothesis testing (Verification or Disproof)
   - Common sense (Galileo – **Veus vei**)

3. **Acceptance.** (Sociology of science)
   - Scientific Community
   - Society as a whole

Regarding the validations stage of a scientific theory, the current scientific method is not complete because it only accepts the hypothesis testing within a experimental study and not the purely rational means or common sense like **Galileo** also indicated.

In practice, the current *scientific hypothesis testing of an experimental study* is used, however, as desired; for example, it turns out that the constant of gravity is universal, and as far as I know, no one has walked around the world in order to confirm it. Besides, I seriously doubt that it would be like that because it is a pretty obscure topic.

An example of the opposite is the existence of planets revolving around other stars. Until recently, their existence was not scientific, and I think that no one with the least bit of common sense could possibly think that they don't exist, keeping in mind the number of stars that are seen at night. I suppose that humans still find themselves in a heliocentric stage with relativistic fever following the Ptolemaic stage.

The second scientific method of the validation stage of a theory, based on common sense, is what I call **Jump or Pop up** because it is self sufficient, there are things that cannot be demonstrated; they are obvious or common sense, we

can say they jump into view. Another very descriptive naming is the **Veus Vei** method from the boy philosopher's famous game of *I spy with my little eye* (veo veo in Spanish)

It is worth repeating, because it seems that it is too frequently forgotten that error elimination or refutation not only arises in the *hypothesis testing* of an *experimental study* but it can also be of logical nature. When it has logical nature it is because it has reached a logical impossibility or a **mental paradox** that obviously invalidates the premise, that is, an *ad absurdum* situation is reached within what we have called the **Pop up method** or **Veus vei method**.

In other words, the paradoxes, let's say of twins or of effect-cause, indicate the presence of errors in the proposed theory.

Of course mistakes can always be made with any method that is used, but the scientific knowledge is a dynamic concept and previous theories can always be refuted, certainly even the names used can be improved.

Concerning the two philosophical positions of the **hypothesis testing**, the *verification*, according to the *Vienna Circle*, as well as the *Popper falsifiability* seemed reasonable to me and very similar in practice.

II.3.3. Acceptance stage – Sociology of science.

The third stage in this vision of the **methodology of science** is acceptance. A marvelous analysis of the evolution of science in medium and long-term is the one carried out by **Kuhn** in 1962 in his book about the *structure of the scientific revolutions*.

Other positions like the accumulation of knowledge or the credibility of **Popper** also seem reasonable, although the point of view could be different.

I am merely pointing out that it is one thing to test and validate a scientific theory, and another for the experts of the corresponding scientific community to have the time or willingness to read theories outside of the prevailing paradigm.

Like the **sociology of science** adequately points out, this stage is the cause of the majority of the problems in science and its methodology.

In particular, it seems that the best **scientific method** in this stage is the *sudden death* method which consists of letting 500 years, or whatever necessary, go by until someone reads your theory, while trying to go unnoticed by the skeptics. Nevertheless, I want to say that it is not a complaint but a reality. I think it can be no other way, that is how humans are and I like it.

III. Methodology of complex systems scientific research

- **The sixth method: Conditional Vitalism**

Regardless of the consequences that the *General Theory of the Conditional Evolution of Life* could have in the scientific and technical field, by providing a logical and coherent basis for all of the technological advances that are already being made in the **complex systems** of genetics and biology, and allowing a better planning and coordination of the **scientific research** of the subject, this theory means a research methodology in itself.

When, for philosophical motives, *both the broad concept of life* and the concept of internal improvement of genetic information as the motor of evolution are introduced; and the later, since there is no greater information, is associated with life itself, or **LIFE** in capital letters, and **pure logic** is applied to the instrumental objectives that are necessary to have, what has been obtained has been the *General Theory of the Conditional Evolution of Life* as an important, individual, and very special case of the methodology of vitalist research.

This **sixth method** – let us recall the three basic scientific methods of the argument of a theory and the two scientific methods for its validation – is different from the previous in that it isn't a basic scientific method but rather a **compound method** consisting of various forms of the argument and empirical research.

Consequently, the sixth method of the *Conditional Vitalism* would be classified in the theory of the complex systems that convey a special methodology of science by virtue of its particular characteristics of scientific research.

In the section related to the systems of the vital impulse of the aforementioned *General Theory of the Conditional Evolution of Life,* the basic characteristics of living beings are discussed and, by extension, the complex systems with vital impulse.

Once a complex system is conceptually defined, the **first stage of scientific research** will be to study which factors or elements affect it or *technical conditions*; in other words, the conditions in which they are developed and could be developed.

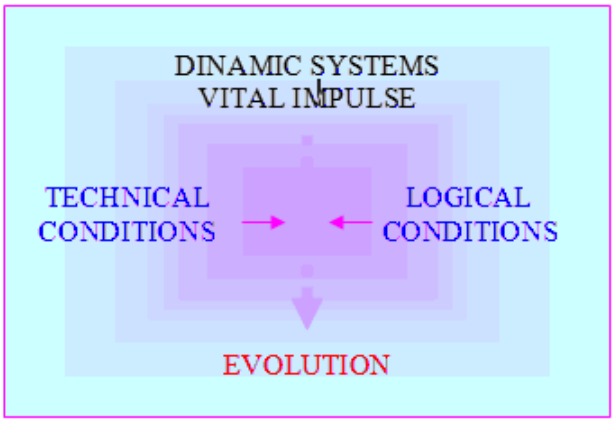
The complex systems must have a **purpose**, that is, be equipped with objectives. Even if not easily determined, objectives as well as the intermediate objectives of this type of dynamic systems should be identified in a **second stage of scientific research**, such as specific methods, processes, and instruments for its attainment. These objectives correspond to the *logical conditions* of:

- Improvement of efficiency.

- Guarantee and certainty.
- Internal coherency and compatibility.
- Resource optimization.

To the extent that a system meets the basic characteristics of the indicated living beings and we are capable of identifying a sufficient set of these derived elements, we can say that the *complex system* will behave as if it had a true Life impulse.

CONDITIONAL VITALISM



The characteristics of this *research methodology of complex systems* reminds me of the **chaos theory** and the **theory of complexity** as attempts at structuring elements that at a glance seem completely inconsistent or independent of each other.

Another idea relating to the complex systems and their research methodology would be the characteristics of **fractals** and its mathematical representations. The fractal that has always interested me has been the dynamic fractal of the flame of a bonfire.

Nevertheless, the topic is not so novel since, in short, it is the argument in which the modern **economic theory** is upheld. In fact, the entire economic theory is derived from additions of individual preferences and alternative uses which come to collect the **vital impulse from the individuals**.

In other branches of knowledge or in other vital systems, perhaps the true motor of the complex system is already known, but if it is unknown or if it has not been studied in-depth, and knowing the instrumental objectives as well as the latest

objectives, the same research methodology could again give surprising results.

The Particle Physics Theory is the science that goes the closest to Life in principle, but scientific research goes on without finding any concrete clues about it. Perhaps its localization is not so important and it would end up useful supposing that indeed it is immersed in the physics processes. *Who knows*?

Let's think about which is the motor and the forces that move the economy or research in general, or that of the political system.

Is the social unconscious formed by individuals or culture? The political system is one of the memory managers… The administration is a set of internal mechanisms… Although a complete model could be formed, I wouldn't want say what has to be done, nor would it be more efficient than another type of scientific research that could be better for whatever reason, or simply for being more straight forward. In cases of elevated levels of complexity the use of **partial analysis models** is advisable.

Even if the consequences that can be derived from the *General Theory of the Conditional Evolution of Life* are far-reaching, we must be conscious of the fact that Life and the vital impulse systems have existed and have followed their own internal dynamics regardless of the fact that we now find ourselves in a position to understand them better. *Before* ***Galileo,*** *the Earth had also been revolving around the Sun!*

IV. HISTORICAL ERRORS OF THE SCIENTIFIC METHOD.

IV.1. Research methodology.

It is not easy understanding why enigmatic paradigms of science are given, or why the scientific method has made such big mistakes, why it keeps making them, and how difficult it is to admit it and rectify it. Like I have already commented, **Kuhn's** *sociology of science* explains many of the reasons pretty well.

With regard to the **constructive criticism**, an additional complication is that when one realizes that there are big flaws in the orthodox doctrine he/she begins to distrust even the most basic elements.

I am going to discuss the biggest errors that, in my opinion, with special reference to the **research methodology of the scientific theory of evolution** for being absolute absent and far far away, and the dynamic history of the **research methodology of Modern Physics**, that is, the Modern Physics of each stage of history.

Many of the problems are derived from the very same misunderstanding of evolution and the egocentric humanism, despite the initial contribution of **Darwin** in the sense of concluding that humans are evolved apes.

Before exposing the mistakes made in each particular science, let's look at some of their general causes:

- **Life aesthetics.**

How can it be understood that intelligence has not changed in the last 2000 years? This generally shared assertion is the only one that leads us to believe that intelligence has taken enormous leaps in early stages because it seems obvious that there are quite a few differences between our ape-cousins and us humans. In the page about historic and human evolution in the book on the *General Theory of the Conditional Evolution of Life*,some of the consequences and more relevant facts of **man's biological evolution** and its stages of research methodology are cited.

I imagine that, with elements so basic and erroneous, all of the **research methodologies in history** will be affected, given that equally mistaken arguments are derived from them. On the other hand, it will be necessary to look for other elements that make up for the mistakes from the structure produced, in order to coincide or to be compatible with the part of reality that is not open to loose interpretations.

The same argument can be used to preach about the **language research methodology**. It seems that all languages are similar in that they are found in the same stage of development and have the same number of words. At least there are not any clear statistics on the evolution of the number of words of each language throughout recent history of mankind. I think that there must be some relation between the number of words and the intellectual capacity of the individuals.

But it seems that it is more appealing to say that language is an innate characteristic in all humans, and that the variations among some other groups, current as well as historical, and among some other individuals is due to randomness. Each one has its aesthetics, but the scientific methodology is designed to search and reach the objective truth.

Furthermore, the aesthetics of reality, which if understood, are better than what is usually thought at first impression. I think that an appealing objective of life is to find the divine aesthetic of the essence of reality.

- **Complexity of science.**

On the other hand, surely the success of certain scientific theories is related to the complexity of reality and the possibility of understanding and most conveniently explaining that complexity for the different acting groups of society, without visibly leaving the scientific methodology.

Suffice to say that this complexity of reality has been a constant in the evolution of science given that, for each stage, scientific research has always been found in the limits of the unknown.

I confess that the most difficult aspect of criticizing a theory is being able to understand it well enough. It is difficult for me to believe certain things and to convince myself that, indeed, the scientific community in general, and not a specific scientist, think of what I am going to argue against. It would be funny to make a criticism and they reply: "*That's figurative speaking, a metaphor, and no scientist believes it*". Well, doing it, they constantly do it and in every possible sense.

One day at university, I asked a graduate in physics about various topics related to time, and he told me that he couldn't tell me because I didn't know what time was and he didn't have time to explain it to me because it was very complicated. The conversation ended quickly. I agreed with him in that we couldn't discuss it, but our personal thoughts did not coincide on the objective reasons of the aforementioned impossibility.

- **Unattainable objectives.**

Another big mistake is the case of the **research methodology of learning and psychology**. I think it has been the abandonment or excessive criticisms of certain proposals that were correct, but did not offer absolute certainty. Of course it is fine to not guarantee what cannot be guaranteed in complex systems, but that should not mean not recognizing that it could be true in the majority of the cases, and, therefore, with these limitations, maintain the opportune doctrinal positions and not go on to the contrary.

- ***Ad hominem* fallacy**

A very extensive issue is the *ad hominem* fallacy or to argue against someone, for example, for the lack of an academic degree instead of arguing against the scientific reasons. When there is no argument…the fairy tale of the sly ones of the Inquisition.

- **The lack of humbleness in science.**

On various occasions, there is a tendency to say that certain topics are empirically tested when they aren't. Perhaps it is more probable or verisimilar in one stage of

the research, but it is not the same.

This hinders the constructive criticism of individuals that actually accept the supposed validation or the lack of support for other theories or *alternative sciences*.

IV.1.a) Scientific methodology and psychology on biology

Within the *scientific methodology*, all of the theories, including those formulated according to the deductive reasoning, are susceptible to improvements or alterations due to contextual changes. A typical case is the technological evolution, when contributing new knowledge that allows greater accuracy and delimitation of the models or, simply, its substitution by others.

From another point of view, such as that studied by the **sociology of science** and **social psychology**, the success of a new theory depends on the correct application of the *scientific methodology* and on its acceptance or rejection by the scientific community and by society as a whole.

In this sense, certain contextual elements of *personal, social psychology, and sociology of science* can be a serious obstacle for the acceptance of new ideas, especially in biology and evolution. Only one example, which is common throughout history, will suffice to explain what I want to say, the initial problems of **Galileo's** theory (1564-1642); one the main creators of the modern *scientific methodology*.

In the assumption that the *General Theory of the Conditional Evolution of Life* is correct, it will be one of the theories that stumble across more difficulties when it comes to being accepted due to represent an **alternative theory of evolution** and the enormous implications of *social and educational psychology* as well as *personal psychology* that its acceptance would have.

This is an example of the scientific resistance to change from its ideological roots!

NEWS ABOUT THE THEORY OF EVOLUTION

"Each person is different, but not because of his/her race.

95% of the current **genetic variability** already *existed* when the species was born...

Few ideologies would have caused more hate, death and suffering than **racism**, the belief that the human species is divided into groups whose origin, color and appearance indicate innately inferior moral, emotional and **intellectual qualities** to

> those of the group (generally of white skin) that formulate the theory..."
>
> *El País 20-12-2002 Science.*

Regardless the problems, restrictions and requisites of the **scientific methodology** about new theories on the boundaries of perception; the assimilation of an alternative theory of evolution would never occur quickly due to that it affects codes and concepts recorded in our **subconscious;** which has, in turn, many other concepts related to them and depending on them.

Although eventually, the *alternative theory of evol*ution could be assimilated and accepted, it needs time so that the subconscious can go on reorganizing. It would not be at all surprising upon reading the following paragraphs for the reader to touch the back of the neck. The subconscious does not like to review basic concepts of its *personal psychology* that it considers definitively formed because it will be forced to work on its revision and, besides, it will consider it unnecessary, given that it cannot be mistaken in such basic and important concepts of human *psychology*.

As a result, I am going to try to break down or neutralize certain preconceptions of **social and personal psychology** that can negatively influence the assimilation, the attempt to comprehend the proposals of this theory or the neutral application of the **methodology of learning.**

The preconceptions are not, nor in the very least, negative in of themselves. On the contrary, they are **necessary** in order to avoid the repetition of constant mental thoughts and reasoning; precisely because of their function, the preconceptions can act as a true limit to the learning and understanding of certain innovations.

The preconceptions that worry me the most are found anchored to the following contextual elements:

- **Personal psychology**
  - *Philosophical-religious.*

    The *alternative theory of evolution* has a dual nature but there is no incongruity between its philosophical aspects and the scientific methodology. Despite all of this, there is no doubt that it will be hard for a religious person to follow the argumentation of the new theory because he/she has some

very firm concepts about biology and evolution which, in principle, he/she does not want to change or even doubt or revise

Likewise, an agnostic person is not in favor of the work of thinking that there are intelligent beings different from humans because, to that person, there it is no evidence, even if it is very reasonable. Furthermore, because that idea will sound like a religion - the existence of a common intelligence in all living beings.

- Another type of personal approach can be that of **convenience**:*Look how now we will have to change a bunch of ideas. They are just ideas and I am very busy now! Besides, with the ideas I have, it suits me fine! I do not understand anything about modern biology and genetics!*

- Given the subject matter, which is the object of the present theory, the advanced **age** of a person can have a large negative effect

- Other personal and specific situations, such as personal consideration in relation to one's own intelligence, can affect or be prejudiced against this theory. If a person does not consider he/she very intelligent, he/she would not like to think that his/her children cannot be intelligent either. As far as this topic is concerned, the *alternative theory of Evolution of Life* explains within the **scientific methodology** the conditions and why if he/she could have very intelligent children.

- **Social psychology**

  - In its **moral** sense, the beauty and goodness of a model are aspects completely independent from the goodness of its *scientific methodology*. However, many people will not be willing to accept a theory declaring that intelligence has an inherited nature; simply because it does not seem fair to alter the equality of genetic opportunities that exist in the theoretical model of biology and evolution of its *personal and, surely, social psychology*.

  - Another current topic in social psychology is **sexual equality.** In the area of **modern genetics and biology,** there are many differences between the two sexes, but whatever attempt to explain the reasons or consequences will create a significant initial rejection, despite the guaranties of the *scientific methodology* applied.

    Certainly, an **alternative theory of evolution** will touch on certain delicate issues. I agree with the *principle of sexual equality,* but I do not

believe is a good policy making biased comparisons on differences that they could easily be entirely true. There is also a high level of subjectivity in valuing the differences, something that I will not do.

- To a certain extent, another problem with social psychology could be the racial problem. At this point, I am referring to the one indicated in the previous paragraphs.

- We can find similar social and personal conditioning according to the **education received, social class, nationality,** etc.

- **Sociology of science**
  - In spite of the *scientific methodology*, any theory about life would have different approaches according to its era. What I want to point out is that many theories that we know of today as completely normal and do not imply neither philosophical, nor religious, nor any problem of any kind, were **revolutionary and dangerous** in their time.

  - Nowadays, there is a great **freedom of expression**, but deep down, as I have commented in the previous point of personal psychology, we are still humans and certain ideas are hard to accept. In addition, due to social psychology and the subsequent effect within the *sociology of science* to certain modern ideas on biology, genetics and evolution there is no doubt that the subtle scab of the **Holy Inquisition** could come off if these ideas are expressed in public.

  - The **technological advances** have considerable influence since they augment the field of *scientific research methodology* while allowing further testing or rejection of theories. Particularly, in biology and genetics, we find ourselves in a new phase due to the technical advances in informatics

  - The modern society of information is changing not only the way of working in all branches of science but the **methodology of learning** itself, given that they have at their disposal the latest advances carried out in different subject matter. In addition and more importantly, is that anyone can publish his or her ideas on the internet without any kind of social filter, even if it means a substantial effort

IV.1.b) Scientific methodology and the theory of evolution

The theory of evolution of Darwin is the biggest mistake **scientific methodology** has made on a modern theory; despite I believe it is completely true about the **origin of man** from an anthropological point of view.

In my opinion, science should have been, or at least currently be more humble and acknowledge the fact that there are many ways of justifying life and evolution, and that due to its limitation or its incapability, the *methodology of science* has not been able to prove nor dismiss the essence or either one.

A similar analysis but more extensive about this evaluation can be found on the page of criticism of Darwin's theory in the book online about the *General Theory of the Conditional Evolution of Life*.

Among the many troubles posed to the scientific *research methodology,* the following can be cited:

- **The very definition of science**

  There is no doubt that in its time, the concept of science was revolutionary and meant a radical distinction from philosophy; consequently, its disassociation from religion, which posed a genuine problem for the progress of science.

  For this reason, the slightest indication of metaphysics in science had to fade away. The problem appears specifically along with the concept of life and its evolution.

  As geology was revealing evidence that the Earth was millions of years old, something had to amend, and the **theory of Lamarck** needed a being as an entity with intelligence and finality on a human being internal scale. Society was not prepared for it despite it being obvious.

  Another solution would have been a loose **biblical interpretation** in the sense of taking the passages of creation as a metaphor, but not the church neither the scientific community was willing to give up their plans.

  The only option that remained was to design some mechanism that would fit into the *scientific methodology,* and could theoretically lead to the evolution of life. **Darwin** decided to go to great lengths to argue his *theory of evolution of the species* instead rationalizing it with evolutionary processes and elements in Europe; the main difference is that for being so distant, they seemed much more convincing and, above all, impossible for a personal verification.

  The rest is well known. They say there is evidence of random mutations and whatever within a proper scientific methodology...

- **The theory of Natural Selection is a tautology**

  It is more than obvious that all living beings exist because they have survived

their lineage.

Furthermore, natural selection includes a rather destructive philosophy in the sense that the objective of life is to survive. Adapting to the environment seems to be a consequence of this objective; although one could also change environment in order to survive; of course, I am not only referring to the little birds on the **Galapagos Islands**.

ou never know, scientists have even empirically proven that the ***objective of life*** **is just** that. I wonder if people using this kind of scientific methodology understand it or just believe it.

- **It does not explain evolution**

Although something was suspicious, they did not know how information was transmitted in order to create a new being. That is, that genetics did not exist. Well then, *random mutations or variations* are just concocted and problem solved.

They also said, with their scientific methodology, that there is evidence that the mutations were random; nevertheless, I think that it is a part of the theory that they have updated a few times and are still working on it... it would explain so much insistence on **adaptation**.

We still do not know which type of statistical distribution have the famous mutations in despite their randomness.

I am not surprised that **Mendel** was ignore by the famous scientific community for 50 years and on top of that, sometimes it is being said that the documents from his studies had been lost in his desk drawers. I even believe that they insinuated that *statistics is a science that should not be trusted* within a good *scientific methodology*.

Indeed, the laws of Mendel actually threatened the theory of evolution in one of its most volatile affirmations.

- **Long-term abuse**

The mechanisms of natural selection can be so slow that they need to be long-term in order to be accepted. In many cases, natural selection theory is reasonable, but creates important problems with accelerated changes in the evolutionary processes of living beings. Here, the tendency is to deny such changes as in the one of human intelligence where the changes are sent to the past; and there it is, problem solved.

In short, Darwinian theory of evolution rejects short-term evolution.

- **Unlimited adaptation to other scientific and technical progress**

  Despite the evolutionary mechanisms of species that do not fit in with Darwinism or its updated versions, it is still unrecognized that Darwin's theory has some considerable gaps.

  On the contrary, the arguments are adapted and strengthened to limits outside of any logic or *scientific methodology*.

- **The influence of fashion in scientific methodology and the theory of evolution**

  A good example was only yesterday (June of 2003) when I had just read an article about the genome in a newspaper, *"serious as they can be"*. Among other things, it said, *"The Y chromosome, which is much smaller than its counterpart, the X chromosome, was considered practically a fossil with very few genes and heading towards extinction due to accumulating genetic defects…"*

  How impudent! It is not the first time that something similar appears and the scientific community does not reject or criticize it; if it were the other way around it would be as if the world was sinking.

IV.1.c) Physics research.

The physics research should be a science that presents less problems because of the subject matter it studies. In principle, if Newton's apple falls to the ground, it falls regardless of the ideologies or interests of any kind. However, if it is analyzed in greater depth, it will be revealed that the theories and knowledge of physics have changed throughout history, and at times, completely disproving the previous theory.

Some apples have fallen even after thousands of years, like the dance of the planets and the sun.

The biggest problem of the **methodology of physics** is the new theories because, until now, they have been dealing with the unknown. There will always be a set of alternative theories proposing solutions more or less adventurous, and the population in general will take years or decades to assimilate the complexity of its era.

An illustrative example of the topic is the ancient **witches** in which we all have the concept of the pseudo-scientific explanations that were invented in order to gain

power in the tribe. But if we analyze it from the point of view of their era, we would then realize that they were actually true modern scientists.

Let's look next at some concepts of *General Physics* and Modern Physics that, in my opinion, attack common sense and distort the *methodology of science* by dulling the argumentation in the subject matter.

- **Classical physics.**
  - **The concept of energy.**

Energy = mass * acceleration * space = mass * velocity2 = kg * m2 / s2 ***Energy has no mass***

What is interesting is the concept of energy being the acceleration of the mass of a unit of space, yet not having mass. It seems to be one of those mystical mysteries, especially, if on top of that, the transformation occurs between mass and energy, and that they are like two expressions of the same.

In short, the newly acquired concepts in physics research are always rather imprecise and changeable for which they should not be considered unvarying.

  - **The potential gravitational energy – Negative energies.**

The potential gravitational energy of mass m in a point of space is the effort that the gravitational field exerts in order to move mass m from said point to infinity. According to the definition, the potential energy is **always negative** and its maximum is always zero. This does not help the mind when thinking about it or physics research in the particular subject.

The relationship between gravity, potential gravitational energy, kinetics, and electromagnetism sets one to thinking in relation to the true nature of gravity. **When something doesn't seem like certain science, solutions are sought in order to be able to progress.** The existence of negative energies, conventionally or not, is a good example of what not to do with a good **methodology of physics** since a conflict presents itself in basic references to the brain when arranging certain concepts.

- As a general rule, it can be said that speaking about the negative elements in physics research unfolds the brain limits in complex reasoning.

More information on the page about potential energy in the on-line book on the potential energy *of theTheory of Global Equivalence*.

IV.1.d) Scientific research methods of Modern Physics.

If the **research methods** in *General Physics* are affected by some concepts, in *Modern Physics* the examples are more abundant, such as those that we will see from the theory of relativity and quantum mechanics. Numerous problems of the theory with the scientific method are thoroughly discussed in the on-line book on the Theory of Relativity, *Elements, Kriticism* (Trek).

It is not that the theory of relativity is false, but that it has correct and incorrect aspects, but above all else it is one of the theories that most unnaturally complicates the knowledge of reality and the progress of science.

As was expected, the maximum exponent of the degradation of the *scientific research method*s is contained in the physics' theories of the last generation that give the impression of struggling to see which says something more surprising. It is what happens when placing the *usefulness as thse philosophical base of the scientific method.*

It is always consoling when the scientific community declares the *Theory of Relativity* incompatible with *Quantum Mechanics*.

- **Theory of General Relativity.**

It is not easy to understand why a theory that unnaturally and quite radically breaks away from such basic concepts such as time and space came to be accepted.

From the point of view of the *scientific research method*, it is revealing that by means of a relativistic philosophy one can come to generalizing the behavior of light on Earth to the whole universe. It is a behavior that is repeated in other branches of science – the human egocentrism is incredibly persistent.

In a sense, what happened with **Albert Einstein's** Theory of Relativity of time in the beginning of the past century was the contrary to that with the theory of Natural Selection 50 years before; in **Darwin's** theory, any aspect having to do with life as a real entity with its very own will was ruled out reducing the whole problem to the product of a deterministic chance.

With the theory of the relativity of time, perhaps due to the scientific community's reaction or guilt complex in the face of the excessive indifference of science, a characteristic of life is unnaturally enforced onto one of the branches of science.

On the one hand, it was appropriate for **Lorentz's** mathematical formulas of relative positioning, on the other hand, since no one understood it, it looked very nice and, yet, it seemed to respond to something strange such as is *the subjective variation of the perception of time* in real life or something much more complex such as the possible *real variations of subjective or internal time* which is dealt with by the Equation for Love.

The Special Theory of Relativity, despite having permitted an important advance in science during the past century, it contains a series of objections, concepts or assumptions that are completely erroneous in my point of view.

Beyond the relative relativities of time and space, due to being abstract concepts, we are told that time and space depend on each observer and speed. This implies that **different times and spaces exist simultaneously and in the same place**.

Moreover, we find that so much emphasis is placed on the idea of maximum speed that it is even applied not only to physical but also to mental speed.

In short, quite a few strange things can occur and they occur as a result of an excessive philosophical and mathematical influence on physics.

We come to the other extreme of introducing **watches** that, starting from the same measurement or state, in various circumstances they end up showing distinct times, and it is argued following the scientific research method that it is not due to a measurement error. *How truly impressive and bold!*

The **scientific research method** actually should go on to be called the technical research method because it will create technical advances, but the conceptual knowledge is being diluted to the point that I would not call it scientific knowledge.

Going back to the topic of external or conventional time, it is not altered by any means because, in my opinion, it would, in fact, have to stop being what it is: an **abstract and absolute concept** through pure convention. The same occurs with space; nevertheless, it has to be recognized that they can also be relatively defined, but the basic complaint is that one thing would attempt to substitute another, or eliminate time as an absolute concept.

Expressions such as space-time **continuum**, the speed of time, **gravity as a geometric effect**, or constant change of units of measurement of the entire International System do not seem the most adequate for something calling itself a scientific research method. More comments about this issue are found in the book on the Theory of Global Equivalence.

- **Quantum Mechanics.**

An even bolder step in frightening neurons is taken by Quantum Mechanics, which must be for being subsequent to the *Theory of General Relativity*.

Perhaps I am opposed to the new concepts, but the idea that the *cat is alive and dead at the same time* is especially difficult to imagine within my concept of research method.

It is even tolerable when something is not known that the *principle of uncertainty* is applied.

That the effect of the physical phenomenon could precede its cause even makes my neurons get up and dance.

Forgive me, but the concept of *being in two places at the same time* exhausts the patience of my own *scientific research method.*

Now then, *Quantum Mechanics* have a wonderful characteristic: its **incompatibility with relativity**. I want to repeat this fact because it tells us countless times that *Theory of Relativity* and *Quantum Mechanics* are proven only too well to be true throughout a century, I suppose that it has to do with a paradox more than with the scientific research method to which we are accustomed.

- **The String Theory.**

Without a doubt, the prize goes to the *String Theory* with its suit of tailor-made dimensions.

The idea is great, since it is not known where the mass-energy will end up when absorbed through a **black hole,** we invent one or two dozen additional dimensions where everything is possible and solving the issue of unification, and surely there are additional available dimensions in case of absolute necessity, for example, in order to explain a *white hole*.

Just as well that as of yet, they cannot empirically prove it with the current research methods.

Is this book updated?
You may check the date in the download page!
http://www.molwick.com/en/ebooks/index.html

Mª José T. Molina

Stories for children

Globalization of science

Free online science books with new theories