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# Different Logics Imply Different Views of the World

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This paper focuses how different definitions of numbersare affecting logicthen affecting how we perceive reality. If we define number 1 to be an *a priori* truth, arithmetic and its logic is one possible perceiving of reality, but if we define number 1 to be an *a posteriori* truth, we must create an alternative logic perceiving reality.

When we change the definitions of numbers, it will affect logic and we will find new views of the world.

It is very dramatic.

If we really want to understand, we cannot just take anylogic and its equations, understand it and continue to calculate. Instead we must go back to point zero, i.e. starting in reality, thinking all over again, until we have formulated new sentences and new principles, leading to new logic and new equations and comparing them with reality.

We can show this by the following scheme:

Reality  $\leftrightarrow$  Observation  $\leftrightarrow$  Thinking  $\leftrightarrow$  Concepts and Sentences  $\leftrightarrow$  Principle  $\leftrightarrow$  Logic  $\leftrightarrow$  Equation  $\leftrightarrow$ Observation  $\leftrightarrow$  Reality

The model of thought below describes the scheme:



This chain used by the mind excludes the concept *a priori*, since everything is *a posteriori*, i.e. the thinking is based on reality and the capacity and power of the mind to represent objects and beings in the world.

Then the concepts *analytic* and *synthetic*as well as the concepts*a priori* and *a posteriori* as they are explained by Immanuel Kant<sup>1</sup>, have misunderstood the logic behind knowledge.

We have to move all around in these levels and steps, starting in reality of course, by using the capacity and power of the mind and its inner illumination and imagination. A change in perspective is severe and can lead to confusion, anxiety and existential crises. Trusting Soren Kierkegaard's view of anxiety might be a clue: "An adventure that every human being has to live through, learning to be anxious so as not to be ruined either by never having been in anxiety or by sinking into it. Whoever has learned to be anxious in the right way has learned the ultimate."

When we are imprisoned in any idea, theory, ideology or religion, we are captured in a paradigm, a way of thinking, which is where most of us live our lives, i.e. this is our "home", and almost all people have some such conviction. In this universe, in this paradigm, this home, they live their lives, not for one single day questioning the paradigm, whether it is within science, religion or politics. People build institutions and create hierarchies with the task of defending and protecting the paradigm, and they establish rules by writing books and performing ceremonies. We can see this in a church, a mosque, an institution at a university, and in a political ideology with flags, to mention some.

Albert Einstein<sup>2</sup>: "In my opinion, nothing can be said concerning the manner in which the concepts are to be made and connected, and how we are to coordinate them to the experiences. In guiding us in the creation of such an order of sense experiences, *success in the result is alone the determining factor*. All that is necessary is *the statementof a set of rules*, since without such rules the acquisition of knowledge in the desire sense be impossible."(My italics)

Einstein concludes his view in 1950<sup>3</sup>:"Experience alone can decide on truth. Yet we have achieved something if we have succeeded in formulating a meaningful and precise question. Affirmation or refutation will not be easy, in spite of an abundance of known empirical facts. The derivation, from the equations, of conclusions which can be confronted with experience will require *painstaking efforts and probably new mathematical methods*".(My italics).

It is always reality that governs, determines and dictates a theory. Before it is possible to have any opinion, idea, thesis or theory, we must interact closely with reality. If we start with establihed theories, we will only repeat and reiterate the conclusions.

But first we must express explicitly the postulates, which will lie behind the analysis of the number 1 and 0, established logics and a new view of the world:

- **1.** "All"consists of the world today, the world of the past and the world of tomorrow.
  - 1.1 Everything that ever existed, exists or will exist is a part of "All".
  - 1.2. All is dynamic All is "alive".
  - 1.3. All = X.

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- **2.** One world exists today.
  - 2.1. The world is a part of "All".
  - 2.2. Anything that does not exist today is not part of this world.
  - 2.3. The world is dynamic the world is "alive".
- **3.** Any world is differentiated into component parts, each one of which stands in relation to another.
  - 3.1. It all hangs together.
  - 3.2. Nothing exists in isolation.
  - 3.3. It all hangs together through a relation R.
    - 3.3.1 Since it all hangs together, nothing is in isolation.
    - 3.3.2 The relation is superior to the parts, **a**, **b**, **c** ...
  - 3.4. If the relation is superior, there will be no cause and effect between the parts.
  - 3.5. The relation makes the parts' existence possible.
  - 3.5.1 Without relation the part will die and disappear.
  - 3.6. The concept of relation explains the concept of system.
  - 3.7. All systems are arranged in a logical hierarchy. If a superior

system collapses, then all subordinate systems will collapse.

- 3.8. All systems of relations, at a certain time, constitute the world.
  - 3.8.1Everything happens only one time.

Nothing that happens will happen again. The unique disappears and will never come again.

- 3.8.2 Everything which is will become something new.
- 4. Everything that exists is physically concrete.

4.1. Meaningful concepts are concretely interrelated.

- 4.2. Abstract concepts must be able to be derived from concrete concepts.
- 4.3. The sentence expresses the thought in a way which is perceptible for the senses.
- 4.4. There are no meaningful concepts without concrete meanings.
- 4.5. The contents of thoughts are concrete.
- 4.6. That which is concrete either exists or does not at a certain point of time.
- 4.7. The combination of article 3 and articles 4.1 4.6 is that the world is alive.

**5.** Thoughts about concrete facts are meaningful propositions at a certain point of time.

These five postulates describe reality and that the concepts reality, physically and concretely are synonyms.

Based on the postulates we can now formulate the formula X = aRb. Let us call it The Principle of Relations.

# Does logic deal with reality?

Of course, even if most ideas and theories of philosophy seems to be far away from reality, dealing with endless conceptual exercises, e.g. the aphorisms of Tractatus Logico-Philosophicus<sup>4</sup>, (which will be referred as Tractatus beyond), they always deals with reality and they cannot be in any philosophers mind without experience of reality. InTractatus:

"2.063 The total reality is the world.

2.1 We make to ourselves pictures of facts.

2.11 The picture presents the facts in logical space, the existence and non-existence of atomic facts.

- 2.12 The picture is a model of reality.
- 2.13 To the objects correspond in the picture the elements of the picture.

2.131 The elements of the picture stand, in the picture, for the objects.

- 2.141 The picture is a fact.
- 2.19 The logical picture can depict the world."

Now we compare these aphorisms with the following, then noticing that the concept fact has a relation to the concept thing, which has a relation to reality, i.e. philosophy deals with reality, again Tractatus:

"1 The world is everything that is the case.

1.1 The world is the totality of facts, not of things.

1.11 The world is determined by the facts, and by these being all the facts.

1.12 For the totality of facts determines both what is the case, and also all that is not the case.

1.13 The facts in logical space are the world.

1.2 The world divides into facts.

1.21 Any one can either be the case or not be the case, and everything else remains the same.

- 2 What is the case, the fact, is the existence of atomic facts.
- 2.01 An atomic fact is a combination of objects (entities, things).

2.011 It is essential to a thing that it can be a constituent part of an atomic fact."

When we compare the postulates 4.1 - 4.6 with the aphorisms above, there is a similarity. Reality is present in all of them.

- 4.1. Meaningful concepts are concretely interrelated.
- 4.2. Abstract concepts must be able to be derived from concrete concepts.
- 4.3. The sentence expresses the thought in a way which is perceptible for the senses.
- 4.4. There are no meaningful concepts without concrete meanings.
- 4.5. The contents of thoughts are concrete.
- 4.6. That which is concrete either exists or does not at a certain point of time.

The aphorisms of Tractatus again, showing explicitly the contact with reality, i.e. whatever logic we use it has to start from reality.

"3 The logical picture of the facts is the thought.

3.001 "An atomic fact is thinkable"—means: we can imagine it.

3.01 The totality of true thoughts is a picture of the world.

3.02 The thought contains the possibility of the state of affairs which it thinks. What is thinkable is also possible.

3.03 We cannot think anything unlogical, for otherwise we should have to think unlogically."

The conclusion is that we must be aware of our thinking in order to find out how we think about objects and beings, so we possibly come closer to how reality behaves. Any abstract concept and idea emanates from reality in combination with the minds capacity and power to

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Licensed Under Creative Commons Attribution CC BY DOI: 10.21275/SR21322143907 understand. The interaction and interdependence between reality and mind must be supervised. Most of any example philosophers mentioned, e.g. "the present King of England", are naïve, and should be replaced and give way to examples from sciences such as physics and medicine, e.g. what does  $c^2$  represent or what force means in medicine. Then philosophy would contribute expanding knowledge. Now philosophy has become the science of babble, as Wittgenstein also concluded, as we can read in the preface of Tractatus:

"If this work has a value it consists in two things. First that in it thoughts are expressed and this value will be the greater the better the thoughts are expressed. The more the nail has been hit on the head. — Here I am conscious that I have fallen far short of the possible. Simply because my powers are insufficient to cope with the task. —May others come and do it better.

On the other hand the *truth* of the thoughts communicated here seems to me unassailable and definitive. I am, therefore, of the opinion that the problems have in essentials been finally solved. And if I am not mistaken in this, then the value of this work secondly consists in the fact that it shows how little have been done when these problems have been solved."

When GottlobFrege deals with logic, we find a philosopher that with clarity investigates concepts. In his excellent book *The Foundations of Arithmetic*, which I doubt Wittgenstein studied, he gave numbers definitions on which the entire arithmetic could be built.

Now, in this paper, we find a new way, i.e. an alternative definition on numbers, and then continue the investigation where Frege stopped and where Wittgenstein did not understand.

The history of arithmetic and number theory did not start with GottlobFrege, Bertrand Russell or Ludwig Wittgenstein, but these three persons, more than Gauss, Kant, Leibniz, Hume and Pythagoras, have dominated this area during the twentieth century.

Let's first look at some definitions for natural numbers, made by Frege, Russell and Wittgenstein:

- 1) Bertrand Russell's definition: "*The number of a class is the class of all those classes that are similar to it.*" It means that "A number is anything which is the number of some class." Formally the definition looks like this: X is a set with one element, i.e. there exists x such as that x is in X for all x and y such that y is in X, x=y, or some equivalent of it.
- 2) GottlobFrege's definition: The number 0, is *being identical with 0 but is not identical with 0, i.e. being non self-identical.* The number 1 is the number which belongs to the concept *identical with 0.* Then, by extension all numbers can be defined as extensions of being identical with 0. The number 1 is the extension of being identical with 0.
- 3) Ludwig Wittgenstein, who argues that mathematics and all in mathematics are invented by humans, and that nothing exists mathematically unless we human invented

it, rejects both Frege's and Russell's analyses of numbers. He means that the extensional approach does not define real numbers, since the real numbers consists in its being *existential axiomatics*, i.e. real numbers need not to be an extension.

Now, let us find out the meaning of numbers based on the principle of relations. First number 1 and then number 0.

## The number 1

Based on articles 3.8.1 and 3.8.2 of the postulates, a and b change, which means that the content of a and b are different from time  $t_1$  to time  $t_2$ .

- 1. a = a at  $t_1$  and this is called  $= a_1$ ;
- 2. so  $a_1$  is valid at  $t_1$ ;
- 3. then  $a_2$  is valid at  $t_2 = a_2$ ; etc.
- 4.  $a_1 \neq a_2;$
- 5.  $b_1 \neq b_2;$
- 6.  $\Delta = a_1 a_2;$
- 7.  $\triangle a = R;$
- 8.  $\Delta t = t_1 t_2$
- Within a certain time t<sub>1</sub> t<sub>2</sub>, the content changes by a<sub>1</sub> a<sub>2</sub> = content of R.
- 10. If a = a at  $t_1$ , then  $a_1 = a_1$ ,
- 11. thus 1 = 1 at  $t_1$ , then  $1_1 = 1_1$
- 12. if  $a_2 = a_2$ , thus  $1_2 = 1_2$
- 13. if  $a_1 \neq a_2$ , thus  $1_1 \neq 1_2$
- 14. Consequently *a* and *l* are not static entities.
- 15. Thus 1+1=2 and a + b = ab are false, except at  $t_1$ ; however  $t_1$  exists before  $t_2$ , which is always the fact, i.e. what is true at  $t_1$  is not true at  $t_2$ .
- 16. Instead we have to realize that at  $t_1$  1+1=2, but at  $t_2$  1+1  $\neq 2$
- 17. This perspective gives a new interpretation to the definition of the natural number n, which so far has been defined as the set whose members each have n elements, which is a fallacy by circularity and therefore an impossible definition.
- 18. Conclusion 1: We do not know if the nature of the Universe is based on numbers.
- 19. Conclusion 2: Science, natural sciences and mathematics, based on the number 1, are not valid, dealing with pure reality, i.e. the Universe and the Nature.

#### The number 0

Up until now the definition of the number 0, zero, represents nothing; it is the symbol for emptiness, i.e. it represents the absence of any quality and its quantity.

But, since R exists, there is no empty space, whether in the cosmos or between particles, i.e. R is present with its contents all over space all the time.

Then, the number 0 does not exist and it is not valid.

The same conclusion can be found in this aphorism in Tractatus:

"4.128 The logical forms are a numerical. Therefore there are in logic no pre-eminent numbers, and therefore there is no philosophical monism or dualism, etc."

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When Frege<sup>3</sup> came to his conclusion, he first dealt with the concepts unit, thing and object; and if they are identical. "Why do we ascribe identity to objects that are to be numbered? And is it only ascribed to them, or are they really identical? In any case, no two objects are *ever* completely identical."

This is the question of unity and diversity, i.e. are numbers based on unity or diversity.

The answer, based on the definition of number 1 above, is that the symbol of any number, e.g. 3 will *not* look like this 1+1+1. The symbol 3 has to be shown like this 1'+1''+1'''.

However, if the existence of arithmetic should consist, this is impossible, according to Frege.

How, then, can we deal with science based on the definition made in this paper, based on postulates 1-5?

We must invent a new logic, since the foundations of arithmetic are weak, i.e. the logic of relations.

#### Consequences

Now we have to discuss how the principle of relations and its definition of numbers, affects established logic and mathematics, since it is on them that most theories, so far, have been dependent, both within physics and philosophy. Let us call it The Paradigm of Logic and Mathematics –  $P_L$ 

 $P_L$  is based on these statements:

- 1. There are atomic facts and elementary propositions.
- 2. Values are true or false.

P<sub>L</sub> is based on a few concepts:

- 1. Conjunction
- 2. Disjunction
- 3. Negation
- 4. Implication
- 5. Quantifier symbols  $\underline{\forall}$  and  $\underline{\exists}$
- 6. Tautology
- 7. Truth function
- 8. Truth values

The Principle of Relations,  $P_{R}$ , is based on these statements:

- 1. There cannot be any fixed atomic facts and elementary proposition, based on postulate 3.8.2.
- 2. There are no values which are true or false, only true or false at a certain point of time, based on postulate 3.8.1.

 $P_R$  influence on  $P_L$  makes all of its concepts invalid.

- 1. Based on article 3 of the postulates, the basic concepts of logic, such as conjunction, disjunction, implication, negation and plus are not valid. The logic is not valid due to the principle of relation, since the nature of Nature is "alive" and is constantly/continuously changing, based on the postulate 4.7.
- 2. Nature is not based on the logic of conjunction, negation and implication; it is based on the logic of relations.

One example of PL is Wittgenstein's logic. Wittgenstein uses

 $\overline{p}, \overline{\xi}, N(\overline{\xi})$  for all sentences, where

\$\vec{p}\$ means all atomic propositions,

- ξ means any subset of propositions, and
- N(ξ) means the negation of all propositions making up ξ.

Elegant to look at, but not valid due to  $P_{R}$  and the same can apply to the truth table below, where p and q stand for propositions, T stands for True and F stands for False and  $^$  stands for conjunction, but the truth table is not valid:

P	q	р^q
т	т	т
т	F	F
F	т	F
F	F	F

The model of truth is based on, not least, these three aphorisms in Tractatus:

"1.2 The world divides into facts.

1.21 Any one can either be the case or not be the case, and everything else remains the same.

4.42 With regard to the agreement and disagreement of a proposition with the truth-possibilities of n elementary propositions there are

$$Kn = \sum_{v=0}^{n} \binom{n}{v} = Ln \text{ possibilities.}$$

As shown in postulate 3.8.1 and 3.8.2 this conclusion is not possible.

It is interesting to compare the X = aRb with these aphoisms of Tractatus:

"4.27 With regard to the existence of *n* atomic facts there are  $\sum_{n=1}^{n} \binom{n}{n} = 0$ 

 $Kn = \sum_{v=0}^{n} {n \choose v}$  possibilities. It is possible for all

combinations of atomic facts to exist, and the others not to exist."

"5.511 How can the all-embracing logic which mirrors the world use such special catches and manipulations? Only because all these are connected into an infinitely fine network, to the great mirror."

Even if Wittgenstein completely changed his view later on, it still stands for how most logic is used. (However, in the Philosophical Investigations, Wittgenstein focuses on the specific and particular instead of the common, general and universal.)

# Propositions according to Frege, Russell and Wittgenstein

The ultimate philosophical foundation and its postulates are not basic enough in each of Frege's, Russell's and Wittgenstein's views of number and proposition.

Based on aRb their views of number and proposition are not valid, i.e. there is similarity in the most important parts, even if they, all three, disagree in some parts.

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They argue only superficially, but with the exception of numbers, where Wittgenstein had the same understanding as the one of the Principle of Relations.

When it comes to proposition they are identical in their views, i.e. a proposition is true or false. This is not the position of the Principle of Relations.

Frege's truth table, which has similarity with the one of Wittgenstein, can be seen below<sup>5</sup>:



In the truth table the possible allowances are  $(\checkmark)$  for false and  $(\checkmark)$  for true, to *P*, *Q*, and *R*.

Russell defines propositions to be true or false.<sup>6</sup> In Russell's paper 1910 "On the nature of truth and falsehood", he wrote: "*propositions*... *are the entities that I consider true or false*. These, I shall argue, having being, but not existence; they are the objects of thoughts, but are in no way dependent on being thought of; they are complex, and their complexity may be apprehended, but cannot be made, by the mind which apprehends them..." (My italics)

"Anything implied by a true elementary proposition is true"<sup>7</sup>, shows again how frequently the concept true is used.

As always when a philosopher makes any statement, it will be followed by, more or less, not understandable argumentation.

However, that propositions are true or false is the conclusion, where we will stop.

Now we can see the similarity between all these three philosophers, Frege, Russell and Wittgenstein, when it comes to *true and false*, i.e. they all have the same opinion that true and false are essential concepts in their logics.

To make the standpoint of the Principle of Relations really clear, I will propose it again:

- 1) There cannot be any fixed atomic facts and elementary proposition, based on postulate 3.8.2.
- 2) There are no values which are true or false, only true or false at a certain point of time, based on postulate 3.8.1.

Since we cannot use the logic of Frege, Russell and Wittgenstein, we need to invent a new logic, i.e. the logic of the principle of relations.

This is the most important task for philosophy, to invent new logics understanding the world and its reality.

If we define number 0 and 1 differently, we will have different understandings of reality. If we define numbers as by the principle of relations, we will have many new applications, e.g. new tools for treating cancer and a new understanding of gravitation.

#### The principle of relations<sup>8</sup>

Based on the postulates 1-5 the principle is  $\mathbf{X} = \mathbf{aRb}$ 

where the concepts are the following:

All =  $\mathbf{X}$  and X is any A, B, C, D, E, F, G ... in All.

**a** is any system, unit, entity, part, element in any field of nature.

**b** is any system, unit, entity, part, element in any field of nature.

**R** is a flow of packages,  $p_{1-n}$ , between a and b in any field of nature and the Universe.



Between all systems and all parts of systems there is a continuous flow of packages.

Since R exists, there is no empty space, whether in the cosmos or between particles, i.e. R is present with its contents all over space all the time.

Manifestations of the flows of packages are what science calls gravitation, energy, interaction and force, to mention a few.

The packages are needed for any system's survival as well as its change. Over time the packages change any system, e.g. the earth's surface, the age of humans and the degree of prosperity.

If any flow of packages for some reason is interrupted or stopped, being too weak or too strong or with damaged content, the receiving system will be damaged. For the human being there will be disease, for elementary particles there will be a nuclear explosion, for the society there will be crisis, violence, poverty and war.

Some examples of equations, to be investigated fully later, are the following:

E = aRb

Where E is energy, a can be the sun, b can be a leaf and **R** is a flow of packages, photons, with material, based on article 3 of the postulates, between a and b.

G = aRb

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Where G is gravitation, *a* can be the sun, *b* can be the earth, and **R** is a flow of packages, not yet discovered, with material, based on article 3 of the postulates, between the sun and the earth. This flow of packages is shown up as gravitation. The mechanism is however more complex as shown later, since the source of **a** is not yet discovered and might come from the so-called dark matter and dark energy. A = aRb

Where A is what we today call an atom, a can be the combination of protons and neutrons, b can be the electron and **R** is a flow of packages with material, based on article 3 of the postulates, between a and b. The mechanism is however more complex as will be shown later.

$$C = aRb$$

Where C is cancer, a can be blood cells, b can be the testicle and **R** is a flow of packages with material, based on article 3 of the postulates, between a and b. The mechanism is however more complex as shown later.

The concept of relation relates to reality by showing that there are relations in terms of flow of packages between all parts in the Universe, aRb, where:

- a, b, c ... are any system, subsystem, unit or part in any field of the Universe, e.g. suns, planets, moons, galaxies, leptons, hadrons, mesons, baryons, nuclei, atoms, molecules, cells and species.
- The relation R is a flow (wave) of packages, p<sub>1-n</sub>, e.g. quarks, protons, neutrons, electrons, photons, proteins, fats, polysaccharides, between a, b, c ... in any field of the Universe.



Based on the postulate - Nothing exists in isolation, i.e. everything exists in relations –in combination with 1 and 2 above, the principle is

#### X = aRb

Between all systems and between all parts of any system, S, there is a continuous flow of packages  $p_{1-n}$ ,

i.e.  $\mathbf{R} = \mathbf{p}_{1-\mathbf{n}}$ . The formula will be this

$$S = ap_{1-n}b$$

Manifestations of the flow of packages are gravitation, energy, interaction, dark energy, dark matter and force.

Based on X = aRb and  $S = ap_{1-n}b$  any system is and can be described as complex flows. We might call them wave functions, since a wave function is a flow of masses.

A wave consists of masses which stand in relation with systems. From system a the wave of masses moves to system b. This is valid for all masses in the Universe, e.g. galaxies, planets, suns, moons, atoms and elementary particles.

We need to find out how the emission and the absorption of these masses of the systems *a* and *b* operate and function.

One answer is that it functions as a logistic system. Any (transportation-) system has the same logic. It contains instructions as to how masses are delivered. There are addresses, carriages, details of how the masses are to be loaded and unloaded, sizes of the masses, how the masses fit into different parts of the transport system, calls for masses, "doors" to the cover of a system, and a mechanism to open "doors".

At all points of delivery the masses will change appearance. They will look different. They will be transformed.

A cover has an important role in all systems of the Universe and Nature. Any system has covers, from one cover up to many. A cover protects the system and has a mechanism for taking in packages from outside, and for delivering packages out from the system. They all have a mechanism for transforming R, i.e. masses from outside to masses inside of the system and allowing masses inside to move outside of the system. According to aRb, both a and b have covers, which change the system of themselves when R affects them; e.g. the system of the Earth's continental shelf will move, gravitation will occur and the distance between planets will change.

To simplify, the concept *relation* is based on this postulate:

Nothing exists in isolation, i.e. everything exists in relations.

The postulate is valid for all objects and all beings, i.e. it is on the most fundamental level, before we even think of science and humans; it is valid for scientific objects as well as for human sciences. After endless of observations of beings and objects, throughout my life, I found no exceptions. And, then, the postulate is *a posteriori*, since it is based on observations of reality, more or less conscious.

Based on the postulate, the fundamental concepts and the fundamental equations behind the laws of relations are the following:

#### **Basic concepts:**

- 1. X = Everything
- 2. U = Universe
- 3.  $U_S = Systems in U$
- 4. X = all quantities in U, such as E (Energy), F (Forces), G (Gravitation), I (Interaction) ...
- 5. X = E, F, G, I ...
- 6. W = World
- 7. S = System
- 8.  $S_{1-n} = Systems$

A system's content is less than U and X, since U and X consist of many systems, S. A system can be the earth, the atom, the galaxy, the sun, the moon, organized elementary particles, cells, humans, to mention some.

- 9. P = Part
- 10. p = package

Packages are contents, which are different in different systems. P, parts, can be the elements of any S, such as the sun or an atom. The difference between S and P can sometimes be subtle.

11. R = Relation. A relation is a flow of packages between systems.

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12.  $R_s$  = systems of relations

13. NW = Network

14. NWU = Network in Universe

#### 15. t = time

Since time does not exist in U, but is invented by humans, it means the difference in an object, the difference which now is measured in human time, but we will measure it in the change of the object.

16. T = Temperature

Temperature does not exist in U, since it is a consequence of the speed and frequency of the packages and of which content the packages consist; so the higher speed and frequency, the higher the temperature and vice versa. 17. RE is the Relations Equations.

#### **Basic equations:**

1. X = aRb

X = aRb is the overall principle and U = aRb is the case of the Universe. N = aRb is the case for Nature.

U and N constitute X, i.e. the entire world.

2.  $X = \sum W_{1-n}$ 

3.  $U = \sum S_{1-n}$ 

 $\Sigma$  means the summation after equals, with the symbol =

- 4.  $W = S_{1-n}$
- 5. W =  $\sum S^{\infty 1}$

This means there are finite systems in the world. W can be summarized by all S at a certain time-period,  $t_1 - t_n$ .

6. 
$$S = (\sum P_{1-n})_{1-n}$$

7.  $S = \sum P^{\infty - 1}$ 

8. S = f(aRb) (f means function) or

9.  $S = (aRb)^{\infty - 1}$ 

In any system there are finite parts in finite relations.

10.  $R_s = (\sum p_{1-n} = p_1 + p_2 + p_3 \dots p_n)^{\infty-1}$ In all relations there are flows of packages, dependent on the system the packages are different from system to system. The equations are:

11.  $S = ap_{1-n}b$ 12. T = f(R)

Temperature is a function of R, i.e. it is by the speed and intensity of the packages that temperature will change and not vice versa.

## 13.t = f(R)

Time is a function of R, i.e. time does not exist in itself, but is integrated in R.

Both time and temperature are not known in the Universe, they are both human inventions.

14.  $S_1 = (a_1R_1b_1)R_2(a_2R_3b_2) \dots$ 

S is a complex of relations between all parts and elements in the system, i.e. the a, b, and c are complicated systems, that send and/or receive flows of packages, i.e.  $p_{1-n}$ 

15.  $R = \sum p_{1-n} = p_1 + p_2 + p_3 \dots p_n$ The big challenge is now to identify all the *p* in all relations.

 $16. (a_1 R_1 b_1) R_3 (a_2 R_2 b_2) \dots$ 

17. S =  $(aR_1b)R_2(aR_3b) \dots$ 

## And

18. S =  $\sum (a_1R_1b_1)R_3(a_2R_2b_2)...^{n-1}$ 

19.  $R_1$  is the relations within the Earth;  $R_2$  is the relations between  $R_1$  and  $R_{3\text{-}n\,\ldots}$ 

 $20.\,(a_{1\text{-}n}R_{1\text{-}n}\,b_{1\text{-}n})R^{^{\infty\text{-}1}}(c_{1\text{-}n}R_{1\text{-}n}d_{1\text{-}n})\,\ldots$ 

# **Applications of the Principle**

X is all and is equal to N, which has all possible contents in the entire universe. The paradigm's equations:  $S = (aBb)^{-\infty}$ (1)

$$\mathbf{S} = (\mathbf{a}\mathbf{K}\mathbf{0}) \tag{1}$$

The system S constitutes of finite relations between a, b, c

$$R = \sum p_{1-n} = p_1 + p_2 + p_3 \dots p_n$$
 (2)

R is the flow of packages, with different content in different systems

$$R_{S} = \left(\sum p_{1-n} = p_{1} + p_{2} + p_{3} \dots p_{n}\right)^{\infty}$$
(3)

R<sub>s</sub> is a system of relations

$$S = (a_{1-n}R_{1-n} b_{1-n})R \infty (c_{1-n}R_{1-n}d_{1-n}) \dots$$
(4)

To identify all relations in all systems is a complex work

$$\mathbf{X} = \mathbf{S}_{\mathrm{U}} \mathbf{R} \mathbf{S}_{\mathrm{E}} \mathbf{R} \mathbf{S}_{\mathrm{A}} \mathbf{R} \mathbf{S}_{\mathrm{H}} \mathbf{R} \mathbf{S}_{\mathrm{B}}$$
(5)

X is the Nature, consisting of relations between the Universe, U, the Earth, E, the Atom, A, the Human, H, and the Brain, B, to mention some systems in Nature.

$$R \rightarrow G; R \rightarrow m_1 x m_2 / r^2$$
 and  $R \rightarrow G \mu \upsilon T \mu \upsilon$  (6)

What manifests as gravitation is the flow of packages.

$$R \rightarrow E$$
 (7)

What manifests as energy is the flow of packages.

$$R \rightarrow F$$
 (8)

What manifests as forces is the flow of packages.

$$R \rightarrow \Psi(t,x)$$
 (9)

What manifests as quanta is the flow of packages.

$$R \rightarrow L$$
 (10)

What manifests as light is the flow of packages.

$$N \to SP \text{ and } SP^{\infty} = (aRb)^{\infty}$$
 (11)

What manifests as species, SP, is the flow of packages from Nature, N.

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 $S_{\rm H} = (aRb)^{\infty} = S_i R_1 S_m R_2 S_c R_3 S_l R_4 S_r R_5 S_d R_6 S_u R_7 S_{\rm re} R_8 S_n R_9 S_e R_{10} S_s$ (12)

The system of the human body consists of flows of packages between different subsystems, i.e. the integumentary system,  $S_i$ , the skeletal system,  $S_s$ , the muscular system,  $S_m$ , the nervous system,  $S_n$ , the endocrine system,  $S_e$ , the cardiovascular system,  $S_c$ , the lymphatic system,  $S_l$ , the respiratory system,  $S_r$ , the digestive system,  $S_d$ , the urinary system,  $S_u$  and the reproductive system,  $S_{re}$ .

The system of the human body,  $S_{H}$  is a complex of relations between different parts, e.g. The muscular system,  $S_m$  and the nervous system,  $S_n$ .Now we can reflect how a molecule or cell can be transplanted to damaged flow in the body, e.g. intermodal pathway in the heart and the kidney filtration mechanism, in order to cure AV-block III and repair the filtration mechanism in the kidney.

#### We must go all the way from fundamental concepts to concrete parts and facts of reality and all the way from reality to theoretical concepts to fully understand how reality and logic correspond and are aligned

Normally in science small parts is dealt with, and then within any given and well-defined scientific system. Now we must find out how things and beings hang together, then we cannot deal with one part at the time. This is very important, since to limit is to restrict our knowledge.

*The Principle of Relations* demonstrates the most fundamental properties of physical reality.

In physical reality continuous flows of packages moves in "tubes" between all systems, resulting in gravitation, force and energy.

These flows contain all mass in the Universe, including dark matter and dark energy.

The key concepts are flows of packages, gates, transformers and systems.

When any flow of packages arrives at any system there are gates transforming the content to fit into the system; i.e. the content will change appearance. There are continuous flows in and between all systems. The two models below show schematically how it appears:



The second model shows how flows are present throughout physical reality:



The systems A, B, C, and D represent planets, suns and galaxies; or molecules forming a transport system between cells in the human body; or flows of elementary particles between atoms; or proton flows between molecules; etc.

When we apply these models to the Earth, the appearance might look like the model below:



When we apply these models to elementary particles, the appearance might look like the model below:



One consequence, among many, is that reality is coherent: i.e. the extreme split of disciplines damages our understanding of physical reality, since it all hangs together.

Using the formula X = aRb

We can transform the most important equations of force, relativity and quantum physics into the equation below, which unites force, relativity, quantum and energy with dark matter and dark energy, i.e.

 $X = a(\Psi(x,t) = p_{1-n})b$ 

where X stands for force, gravitation and energy, a and b are systems and  $p_{1-n}$  is a flow of packages.

The absorption of any flow of packages is guided by a *Transformer*, which is*the mechanism that directs and leads packages*, e.g. protons, electrons, photons and nutrient molecules, as shown below in the example of Black Holes, i.e. Black Holes are Transformers creating new galaxies, suns and planets.

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*Black Holes.* Let us first take the position that the main content of gas (X) in the Universe is hydrogen (H), then in combination with the elements of iron (Fe), aluminium (Al),

magnesium (Mg) and oxygen (O), we can illustrate the Transformer:



The Sun, the Earth and Planets

*The so-called Black Holes are Transformers* between galaxies using packages of the so-called dark matter and dark energy. The conclusion is that Black Holes do exist, but they do not function as we thought. The function of Black Holes based on contemporary science is only imaginary, since they are based on invalid postulates and theories of physics.

Throughout reality *The Principle of Relations* applies to the mechanisms of a *Transformer's functions*, e.g. the Earth, the Sun, the Moon, the human body, galaxies, atoms, organs andcells in the Human Body.

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