

The Universal Organization Principle as Ultimate Reality and Meaning

Attila Grandpierre
Konkoly Observatory, Budapest
P. O.Box 67, HUNGARY
grandp@iif.hu

Abstract

It is pointed out that the different concepts of the Universe serve as an ultimate basis determining the frames of consciousness. A unified concept of the Universe is explored which includes consciousness and matter as well to the universe of existents. Some consequences of the unified concept of the Universe are derived and shown to be able to solve the paradox of the self-founding notion of the Universe. The self-contained Universe is indicated to possess a logical nature. It is shown that a passage exists between consciousness and the material world and its nature is exemplified. Moreover, arguments are presented showing the simultaneous emotional nature of the Universe. A solution to the paradox of semi-finite spacetime existents, possessing finite and infinite substances simultaneously, namely eternal existents like moral values and logical validity, is obtained.

Keywords: nature of the Universe - matter and consciousness - unified concept of the Universe - the reality of logic

Introduction

What is the point of dealing with such an almost inconceivable thing as the Universe? Especially today when the post-modern world squeezes people out and sucks them in, chaining them to the everyday cares to the very last? It is actually the increasing degree of being chained to the everyday routine, to a narrowing horizon that justifies the attempt at making the ultimate questions clear. Our life-as-a-whole is based ultimately on the Universe and our relations with the Universe are which

ultimately determine the way we think and lead our lives. We must deal with the Universe in order to understand why Nature called us into life, to understand the way we live, the way we think and the way others think. To humanise the world and the society we must know the essence of the Universe, because it is found to be the liberating, driving forces of nature, of mankind, of today's societies and of the individual. In order to understand the way other people think, we have to develop a way of seeing. And the framework, the relationships and the foundations of thinking light up this seeing. All kinds of thinking gain their power and the depth of their seeing from their regular relations with the foundations of reality. The thinking and the frames of thinking are determined inevitably by the fundamental relations between Man and the Universe and the possible ways of perceiving and conceiving the world, rather than by some voluntary or arbitrary action. The fundamental questions of the Universe reflect the basic relations of our consciousness. These basic relations represent the possible ways in which the Universe can be conceived of, which are easy to survey, as there are just a few basic variations. The survey obtained in this way sheds light on Man, the Universe, the relationship and the fate of Man and the Universe, making it possible to grasp the essence of the systems of human thinking.

All types of thinking need foundations that can be approached through the concept of the Universe. Even if thinking develops spontaneously, it would require a foundation in order to be sound. But the base of a thought needs other, more fundamental bases because without them even the base can be awkward. As the Earth moves in the Universe: to find a base for the Earth, it needs the Galaxy; and the Galaxy in turn needs the Universe. It is another question where the Universe actually is and how it can manage to "fly in the middle of nothing". The Universe fills up all existing space. Wherever there is some space, something already exists there, and the Universe is already present. The Universe is the setting, the ultimate basis of everything that exists.

All these show that we need an ultimate basis that serves as a basis for other bases. Even superficial, unfounded thinking has a basis, even if it does not show it or does not become evident at once. Even unfounded thinking, in order to become real thinking, will set up some sort of bases or if it does not set them up itself, it borrows them. Those who think superficially may do that because they get many directions, relational, behavioural and other motives that have already been found out, and thought over to their last bases by somebody else. Let's take as an example today's most widespread system of thinking, materialism. According to

this, the Universe basically consists of sets of material, inanimate units like atoms or elementary particles. This world-view reduces life and consciousness to be fundamentally inanimate and devoid of own laws, so it leads to the conjecture of the impossibility of moral responsibility as well. I would like to note here, that it is a matter of more thorough study to decide, whether this material principle possess a universal validity or not. Not belonging to the scope of the present study, I only mention, that Ervin Bauer, the founder of theoretical biology proved that biology has its own laws differing from the laws of physics (Bauer, 1920, 1935). I also point out, that the ultimate basic principle of physics is the variational principle expressing that physical bodies are the ones which fulfil the principle of minimal (or maximal) action. Nevertheless, we know that living being and consciousness does not follow the principle of minimal action. Therefore, the materialistic view may have a certain validity regarding the physical systems, but do not have a validity beyond this level. Anyhow, even materialistic ideology was invented by somebody, who then began to enforce it and by today it has become so widespread that many people tend to accept this ideology without thinking it over seriously. These kinds of people live their lives and bring decisions that are based upon foundations someone laid down some thousand years ago. So even superficial thinking may be based on more-or-less solid foundations. If it did not have ready-made bases it would not be able to roll along easily, to perform balanced motions. Its clichés, routinely made gestures, its internal systems of direction and direction changing gain their real or illusory power from these ready-made bases. These are the bases from which we can understand the way we think. And the ultimate basis of thinking is the Universe, specifically the thing that we understand by the concept of Universe.

The Role of the Concept of Universe in our Lives

The concept of the Universe has remained a shockingly little examined topic over the history of human civilisation. Systematic science and philosophy are also at fault for the examination of the very nature of the Universe. These questions are rarely examined in the widespread materialistic world-view. But without examining the nature of the Universe it is hard to escape the constraining power of the usual ways of thinking and living.

The ultimate base of human thinking is connected with the concept and the nature of Universe, and is also related to the kind of

relationship we have with the Universe, thus human thinking can only be understood by examining the concept of Universe. Do we have any substantial relationship with the Universe or it exhausts in some mere aesthetic, philosophical, or subjective experience? The relationship between man and the Universe is one of the crucial questions of our lives. If someone yields to external effects and decides to live his entire life the way the structure of a materialistic society offers him to live, she/he will also agree to fail to bring life to perfection, and to put her/his human relations in the service of his social and financial success. If someone accepts a consequent materialism, she/he has to agree that objective processes determine her/his thoughts, not she/he herself/himself, therefore the moral scene turns to be out of personal control. Moreover, life in a consequently material world is based in an ultimate inanimateness, and so insignificance, because the Universe is a mere scene of the chance events of inanimate matter. The loose of the moral scene will need compensation, which, within a strict materialist view, would be possible only in the materialist scene. A consequent materialistic person narrows his life down, makes it materialistic, and her/his life will thus express a thought that somebody founded mentally some time in the past and which gradually became enforced to us. Basically it is the relationship between Man and the Universe and the relationship between the Universe and Nature that bear the fate of Man, the fate of humanity, the importance and meaning of our personal life. It means that every important question, even human thinking can be understood and enlightened by examining these ultimate questions. In order that our life does not get out of our hands and that we should know what is important for us, we have to enlighten these ultimate questions.

The Unified Concept of the Universe

How is it possible to define the concept of Universe? The Dictionary of Philosophy and Psychology (1902) says, after Cicero: "the Universe is the collection of all material things". Let us compare this view with the one written in the Hungarian Etymological Dictionary (1963). It says that it is "the complex of everything that exists in their proper relations and order." This is definitely not the opinion or idea that we have in common knowledge, by which the world is simply "a collection of all material things". The Hungarian Etymological Dictionary does not say that it is only a heap. On the contrary, it expresses the view that there exist also some relationships and order in the Universe; and the Universe is the

Universe just because we can find these relationships in it. Of course this definition does not say what kind of connections and order there are, so we have to clarify it later.

It is nowadays a widespread belief that the Universe is the sum of all material existent. On the other hand, the concept of the Universe embraces all existent. Therefore, the widespread concept is well-founded if material objects are the only existents. To clarify this, it is inevitable to know what "material" means. Although there are a variety of different meaning carried by this word, and so it would seem it is impossible to determine which is the proper one, I found a possibility to pick up the meaning which is relevant for the physics and the related "material natural philosophies". This meaning can be found when one recognises that physics actually is based on a principle which is the "principle of the least action" (Maupertuis-, or Hamilton-principle). Modern physics, including quantum physics, is founded on this 'most universal' principle, and its formulation as a variational principle serves to derive all the laws of motion and energy (see e.g. Landau, Lifschitz, 1959). This principle tells that the objects of physics follow exclusively the principle of least action. This means that physics is competent in the inanimate world. Building a "materialistic natural philosophy" on physics, one get an inanimate world construct in which matter is completely inert, inactive, unable to express any self-activity. Such a world-view and the phenomenon of life are mutually excluding each other. The fact that life exist proves that a "materialistic natural philosophy" is fundamentally mistaken. An inert, inactive material world is never able to create highly organised entities. The point is that physics is identical with its most fundamental principle which contains all of its laws. If this fundamental principle is not universally valid, its scope is limited and a new, universally valid principle has to be looked for. I point out the life-principle (and mind-principle) may be such universal principles. Apparently, the possibility and necessity of a new, universal science is shown, which is based on life principle, and derives the presence of a seemingly 'inert' matter as a limiting case valid only in some approximation. My proposal is that a "natural" philosophy has to be conform with Nature, with its fundamental living and mindful nature. The concept of "material Universe" is a self-contradictory notion, a nonsense, therefore one has to abandon it and look for a logically consistent notion of the Universe.

I made an attempt to examine the question of how we could conceptually grasp the essence of the Universe. I found the following definition proper: the Universe is a unified whole of everything that exists.

We know that the Universe has a material nature; we know that there exists consciousness in the universe. The usual modern definition that says that the Universe is the totality of everything material that exists does not include consciousness. Thus consciousness is dropped out of the Universe. So if the Universe is posited "in the middle of nothing", then consciousness is drawn "towards the periphery of nothing", and thus it cannot have any particular connection with the Universe idling "in the middle of nothingness". This kind of opinion excludes our consciousness from the Universe, and just let anyone try thinking with a consciousness that is somewhere "on the other side of nothingness". I do not think this is a useful and suitable definition. In contrast, I think that if we imagine the Universe as a unified whole of everything that exists, consciousness has to be included in the Universe too. Although consciousness is a form of existence essentially different from what we mean by the concept of matter, but if the Universe is to be a unified concept, and consciousness exists as much as matter, the Universe must be as much of consciousness as much it is material.

On this basis, we should imagine the Universe as a unified whole, as a unit and a system in which both consciousness and matter are present. These two factors form a unit, they interact in such a way as to correspond to each other's essence and form a unified, basically uniform and dynamic system. Thus the Universe is a kind of material system with a structure that will give an essentially adequate response to any effect exercised by consciousness on any part of it. So the Universe is a material system controlled by consciousness. If we are to create this very image, this logically obtained result, we can tell immediately whether this concept of the Universe has a form that can be experienced or it is still floating somewhere in the Universe or on the abstract peripheries of nothing. **Obtaining this result by the logical analysis, the question arises if anything like a consciousness directed material system may be experienced by us in our empirical lives or not.** I have come to the conclusion that even today there exists a kind of the uniform dynamic Universe that can be experienced in our world. If we imagine a system that is composed both of matter and of consciousness, we are directed to the concept of living creatures, the human being and the human brain. These concepts are similar in that consciousness is connected to them, and just as consciousness has an effect on the brain the person's thinking and behaviour begin to change. Thus if we examine the unified concept of the Universe on a logical basis, we are led to the conjecture that something like the primal unified Universe exists in ourselves, within our inner

world, as a whole - and this circumstance sheds new lights to our internal experiential processes. The primordial form of the Universe may have remained in living beings after the primeval Universe developed to various stellar systems from a uniform primary unit. Alternatively, it may have been rebuilt in them again. The primary form of the Universe may have been rebuilt and now working in us, and we live and think with the help of it.

Considering the circumstance, that the Universe contains every existent, including space and time, we have to think that the Universe as a whole exist not in the spacetime since it involves spacetime as well. If the Universe as a whole does not exist in spacetime, it does not have extension in space and time. Therefore, the Universe as a whole do not exist in the same way as its constituents, its dimensions are imaginary. This characteristic - the imaginary dimension - is again common with the processes of our innermost processes. Our thoughts do not have spatial extensions. Moreover, they are related to timelike extension mostly in their articulation, when they surface towards the outer world, and create their word-bodies. In this way, we have to think that the Universe as a whole has a purely thought-like nature, which may permeate every existent of spacetime from within. Our thoughts, as well as our emotions, and in general, our internal psychic events may consists from or identical with universes, which may consists of psychic events, and so on. This chain leads through our innermost world to the Universe, and so it offers a possibility to realise a self-containing loop.

The question of God

The Dictionary of Philosophy and Psychology (1902) states about the Universe: "It is used by some writers to include the spiritual world; by others to include God." Thus the mental realm were sometimes still included into the concept of Universe in 1902. Funny but it seems that those who were referred to as 'some writers', those of an uncertain character, authors whose names can not even be found out because the editor of the encyclopedia did not think them worth mentioning, did raise the idea of a Universe not exclusively material.

In a six-volume English philosophical encyclopaedia (Edwards, 1968) the concept of the Universe already did not occur. I tried to find it in the entry for Cosmos. Cosmos as such was also not entitled - but chaos was. Under this title even Cosmos was described: "Cosmos, according to later natural philosophers from Pythagoras to Archimedes,

described the world order that was thought to manifest itself in the totality of natural phenomena." Hesiod was quoted as saying that "chaos coexisted with the undifferentiated state of the Universe." And this concept is interesting because the 'undifferentiated Universe' show a substantial similarity to the unified primal Universe I have arrived at on a logical approach.

What can be meant by the concept of Universe, what is the factor that organises the Universe as an organic whole? What is the relationship, whose elements at least we may seem to understand, what is then integrated and how, what kinds of relationship hold between the parts of the Universe and between the Universe and us? These are questions that must really be examined more precisely.

If the Universe is to be an organic unit, it must be more than just the sum of its parts. But in this case to what extent can the Universe be understood by examining its elements? The Universe can not be imagined after the fashion of, say, a creature could possibly come to, who, living in a horse, knowing just a few molecules of the horse has to imagine on this basis what the horse itself could look like. If it gets to know, let us say, three or four protein molecules, it might say that the horse must be an enormous protein molecule. For an elementary creature sitting inside and getting acquainted with a couple of molecules it is not easy to find out the essence of a horse: what "being a horse" means, what it is like, what it looks like, what it does, what it feels and thinks, how its life goes, what kind of pleasures, experiences it has. It is not certain that this creature can imagine what a fiery steed this horse is, and when a man is riding it at full gallop what kind of experiences are lived by the horse. Then again can we hope at all to understand somehow the universe as a whole? At least this example also shows that we can see the structure by recognising the relationships, by understanding why a horse is a horse, what its structure and construction are like, what kind of relationships and existential qualities it has. Therefore, in order to understand the real nature of the Universe we must examine the relationships giving its substance.

The Logical Nature of the Universe

The "Universe" is a universal concept. There are some other so-called universal concepts such as gas, matter, concepts, or the things that really exist. These are universals too, yet the idea of the Universe is different from them, because there is nothing like "all gas as a whole", "all matter as a whole", "all concepts as a whole" or "all-the-things-that-really-

exist" as a whole. But the Universe does exist as a whole because it contains everything and is the parent of everything; as from a parental factor, everything originates from it, and so genetic and substantial relations exist in every part of it. The Universe is not some rigid system that has given birth to nature and to humanity, and after reaching this point, this activity would cease. These roots are alive, and the universal organisational laws of the Universe continue to exist nowadays.

The Universe as a concept is a very special collective term, regarding that it has to serve also as its own foundation since there is no any base behind the Universe. A similar case has come up in mathematics, namely with the term of a set containing itself, which however has led to a bunch of paradoxes and shattered the foundations of mathematics. How can something contribute to its own conceptual foundation? Now we arrived to the question how to base the ultimate foundations. How can something serve as a base for something that has no other basis behind it?

This apparent paradox can be solved - and I make a proposal as follows. The thing that can base the Universe is nothing else but a kind of universal organising power that is similar to the organisation of the human brain by consciousness. Do we know a universal organising power that is both a creative power and is able to control the universe by consciousness? What kind of organising power is consciousness controlled by? The growth of consciousness has but one law originating from itself. This organisation factor is not incomprehensible to our mind, since the law of the mental organisation of thinking is well known: this is called logic. All other factors influencing consciousness, such as perception through outer senses and even genetic effects are external factors. If the Universe is organised by a universal organising power, which is similar to the organising factor of consciousness, which is logic, than Universe must be ruled by logic. Since there are no factors to be found outside the Universe, the only factor that can govern the Universe is logic. Thus logic is the universal principle maintaining the existence of the universe. Logic is a system of relationships that contains the possibilities of the primordial images of everything that exists. Every relationship that can exist at all is present in logic. Without having logic, the Universe could not exist. The existence of logic can not logically be doubted; without logic our existence would be unfounded, the Universe could not have got beyond pure contingency and would have been unable to create life and conscious thinking.

The following supports logic being the ultimate basis of the Universe. According to the materialist worldview, human logic develops in

the course of experience, by the experiential recognition of the logic obtaining among the facts of the world and by a theoretical generalisation of this. Thus it is quite clear that in materialism the logic of the world is given a priori, so materialism does not account for the logic of the Universe but leaves it out of consideration, in a sphere not allowed to comprehend by ratio, i.e. in the realm of mysticism. The logic of the Universe ought to have preceded the appearance and development of the material aspect of the universe. Since if we imagine the primordial Universe as having no logic in it, with the heaps of matter originating without any law and being thrown about at random (as it was raised by Eddington), in that state atoms would flash randomly without any systematic attitude because they have no idea of any law that should be followed, there are no physical laws - because if there were any, it would mean logic. Without law these blocks of matter that know nothing, do nothing, would not be able to be organised into anything together and make the laws themselves. We have to go back to the origin of laws, and the origin of laws leads us back to logic, which is the basis of all science. Logic is the ultimate basis of all that exists, logic is the basis of all laws, thus logic is the ultimate foundation of the Universe too.

But what kind of activity can be assigned to logic, how can one imagine that the Universe has jumped out of logic right here in front of us, how has it become real? This question can be answered too. Logic itself is the expression of world secret, the real manifestation of the world mystery. Logic is the incarnated world mystery and its solution at the same time, the secret of world mystery that can be approached by everyone any time, yet it is still inaccessible without a personal action. Since the Universe stands on a logical basis, it has a secret nature, because logic is for revealing something and the more we reveal the more we develop the world mystery by it, and the deeper secrets are revealed, the deeper things we discover. We must create a picture of logic, which is suitable for establishing the ultimate foundation of the Universe, and it means that logic is a primordial existing world network. As such, logic contains all the relations of the universe, all that is possible and all that we can ever know. Logic is the way of the development and unfolding of the Universe. Logic is the theoretical setting of the world's conceptual shell and the core shining out of this conceptual shell. Logic is the realisation of a mode of existence that existed before matter and its removal to the world of material shells being realised. Logic is an embryo screaming out of the world-shell, the voice of the world before its birth that can be clearly heard, the voice that is the easiest to receive and understand in the whole world. The Universe as a

whole is the only object that can be examined by nothing but logic, because the Universe is pure logic. Logic is the primordial principle of the Universe; the Universe is the unfolding of logic. Thus the Universe is the creative application of logic, every consequence of which results in the appearance of qualitatively new conditions. The growth of the Universe is a chain of specific conditions and statements in which the statements are designed both to extend the limiting power of the conditions, and to tighten the expansion of their meaning. Thus the law of accomplishment of logic contains the principle of subsistence and self-improvement too. Since subsistence and self-improvement is the basic principle of life, so the driving power of logic contains the basic principle of life too. Thus logic is a factor full of life. The logical form of the concept of the Universe implies the logical expansion of proceeding from one to two and so on. The logical form of the idea of Universe includes the glowing string of logic, the logic of the world network still uncharted. Logic is the blueprint of the conceptual existents before their material manifestation. Logic is a glowing system of threads made up of the connections of the magic creative power that pervades the world, which was not to be scratched out of experience afterwards as materialists think. Logic is the theoretical condensation, the flashing light of all possible experience. Logic is a power existing in the clearest and sharpest manner. Logic is the light of the world from the prehistory of creation. Logic is the conscious power of the world before self-consciousness arose. Logic is the caul of the Universe and the navel chord drawn into the centre of our personality.

Passage Between the Logical and the Ontological Levels of Existence

Let us examine now how logic can "jump over" into reality. The levels of ontological existence and of epistemological existence are two different levels of existence, there is only a "reflectional" relationship between them and even this reflection seems to be quite vague. If I come to think, "it is raining", this is different from the fact that outside it is actually raining. If it rains in my thoughts and not in the outside world, then it is obviously not the same; it is raining (inside), but it is not raining (outside). You just think that it is raining. But do I think that it is raining? Because if I thought that, I could think it to the utmost of my power, not merely mechanically imagine it or simply say "oops, it is raining but I was only kidding ". Just let us take it seriously, if we come to think that at all, we should mean it! Let it rain as heavily as it can, with all its might, let us think it to the end, let us feel it, let it become alive in our inner self! If we

do think it, with all our might, if it becomes alive in our inner self, it might even start raining outside. And it might not, because if it is raining outside, it is not just for me but for everyone else too and somebody else might "think" that it is not raining or that it is sunny; and the result is that the conflicting wishes will run against each other and in the end it will either rain or not rain - as usual. We might find a passage between the internal and external rainfalls - but we must go down very deep to find the connection. We can also imagine everyone saying, let us try and check whether there is a passage from the internal existence to the external. And the reason why it has not rained outside owing to the internal rainfall is that people think this or that inside, and they do not even take the slightest care for whether it should or should not rain now. Thus one of the alternatives to follow would be that nobody thinks anything and only one person would think of rain - but this is quite hard to carry out. So we could rather suggest that everybody in the whole world should let it rain internally as heavily as it has never ever rained yet outside and if after that it begins to rain, we could decide whether there is a passage between the internal and external realities or not. Until this test has been done, we can guess on the basis of logic. The passage is discovered, it can be experimentally tried. We have arrived at the possibility of a passage; but at the same time we should consider that there are two kinds of existence here on two different levels: physical and mental.

Let us see another example, considered from the early Greeks. Why did I jump into the air? What was the reason for this? If we take things seriously, as seriously as they are taken "outside" for those that exist outside, I have an explanation on this level of existence for why I ontologically and physically jumped into the air. The answer is that I jumped because the quantity of food I ate in the afternoon, in consequence of certain molecular rearrangements passed the energy to the muscles in my legs and made them contract, then soon some more food arrived and therefore I jumped into the air. This is the reason, this accurate answer is physically unquestionable. So I actually jumped because of the molecular rearrangement, but in reality I jumped into the air because I liked it that way. It seems that "actually" and "in reality" exist not only in contrast with each other, but also side by side. There is an answer on both levels, both are valid and there may be no contradiction between them at all. We know that the internal level of existence is thought to be illusory by many. In reality existence represents an organic unity, and logic is the primary fact of the world, so we should be able to deduce the physical laws from logic. It is possible because for example the reason why space is three-

dimensional is deduced (Gorelik, 1984). In four-, and two-dimensional spaces the equations of the electro-magnetic field can not be written in a form including the role of electromagnetism as a force. However, electromagnetic power is essential to life, thus physics was compelled to choose three-dimensional space.

An even more profound transition between the worlds of physics and of consciousness is seen from the side of matter, for we may ask what matter does? Basically matter follows certain physical principles and laws. Physical laws are complicated and there have been only a few persons to take the trouble to try and understand what they mean. They are there and that is all to it, we do not care a fig for it - this is the most inappropriate but most usual approach.

But what is the meaning of the most fundamental physical equations? Basically all of them are conservation laws. They do not express anything special at all, only the fact that everything remains what it was, forms of energy and matter. Every motion can be traced back to these virtually banal statements. Conservation laws could be traced back even further. At the beginning of this century Hamilton and Noether traced all conservation laws to variational principles, and it was possible to deduce all physical laws from a single variational principle, from the form of a variational integral expressed in terms of Lagrange function. It basically means that physical systems follow the principle of extremal (minimal or maximal) effect, they express the principle of least effect. Physics is interested in what is inanimate. Inanimate things follow the principle of least effect which is to their credit since at least they still have principles to follow. What does a virtually lifeless chair do? It follows principles, which people do not usually do with a consequence of a similar degree. That the matter of the Universe is endowed with this characteristic, namely that it is able to follow principles means that the inanimate world of phenomena is permeated by a conceptual level of existence. Thus the physical level and the level of principles, and so of consciousness are connected. As the matter, apparently lifeless, withdraws from the unity of being it follows the laws relating to the level of existence of consciousness. Thus matter in its behaviour follows laws, principles of consciousness and of logic. These are formulated in a pure form of consciousness and this can be formulated in a mathematical form.

How can the matter of the Universe follow principles of consciousness? This is possible only if there is a very sensitive relationship between the different levels of being. Mind is capable of making an effect on material processes - this effect, if perceivable at all, is usually very

weak. The Universe as a whole, the primordial Universe represents a certain responsiveness of consciousness, besides a kind of Universe has come into being in which the separation of consciousness from matter has begun, but even this separated sort of matter is still capable of following principles relating to consciousness.

There exist a switching board between the different levels of phenomena, which is the "switching board of Nature", and this switching is what observed as chance phenomena Bornemisza (1954). These "chance phenomena" has in reality a certain directivity (Laszlo, 1995) that allows Nature to create phenomena not only by the blind choice preferred by materialism. Moreover, all the fundamental levels of Nature (quantum fields, elementary particles, molecules, organisms, biosphere, Earth-as-a-whole, the Sun (Grandpierre, 1996), the Solar System, the Milky Way, the Universe-as-a-whole) are themselves organic units permeated by the universal organisation principle (Grandpierre, 1995, 1996, 1997).

Passage Between the Worlds of Matter and Consciousness

So there is a passage from the world of matter into the world of consciousness, which can be conceived as follows. Here we encounter the problem of the birth of matter. Imagine the Universe in its pristine state in which there is no any matter (fermionic particles) existing yet. There is a physical nature of the pre-material state which may be described by the scalar potential of massless 'particles' (bosons) (Itzykson-Zuber, 1980). In cosmology this massless, functioning world model which is entirely equivalent to the material universe is represented by the well-known cosmological model developed by de Sitter, containing a non-zero cosmological constant. But how can existence prior to matter be approached logically? Where there is no matter, just the ocean of the primordial life of consciousness, everything is consciousness here, pure logic: existence of consciousness, something we have in ourselves. It is as if we were the source of life ourselves, a sort of primal sources without a material body.

Now let us execute a thought-experiment. This thought experiment serves to show the possibility to understand how 'subjective' beings may create 'objectivity' through their interactions. To conceive the pre-material world, it seems to be inevitable to apply for thought-experiments proved to be so useful in e.g. physical sciences. If the result will show a theoretical possibility of creation of objectivity from interaction of living beings, the result may possess a cosmogonical significance.

Suppose that the Universe before the appearance of fermionic matter may be described as the interaction of (for example) nine 'primordial sources' (pristine existents, formations of the primordial life-ocean) floating in the ocean of primal life, with no trace of matter at all. Whatever the primordial sources feel or think or long for comes into being by itself just like in a real, perfect, internal world. However, a desire arouses suddenly in one of them - for logic is under consideration - a desire to understand something. What is this world of ours, in which we have been living for time immemorial? We try to find it out, but for this we need some sort of assumptions to be verified later. It will suppose that say the world is red. Now the primordial sources must partly see and feel each other, they are connected to each other, partly get to know themselves. They may be imagined as having a semi-transparent mirror in front of them, which lets their light through and at the same time it lets the light through that comes from outside. When in one of the primordial sources the idea that the world is red arises, the suggestion itself comes to be felt by the others too since everything is directly related to everything. As the source in question wants to check it, it lets this red light, this internal suggestion on a trial run. The others have also been trying to find out what the world could look like and suddenly they see some red light coming from that direction. Is the world likely to be red then? Yes, it is. At the moment the others speak this, they believe it to be red too, this redness is born in themselves too, and a red light comes out of them too, which is reflected by their own mirror and it gets to the others too. From that point on everybody thinks the same, it becomes their conviction, they experience it again and again, and from that time on the world is red. This is the way a certain material quality, a kind of objective conception, a kind of definiteness is born. The world of something comes into being and in this world of something matter is formed from the objectivising co-operation of these minds. Thus there is a passage of consciousness that leads us from the world of consciousness to the material world.

The Emotive Nature of the Universe

If one accepts that the Universe has a logical nature, a further question may arise: whether or not the Universe has an emotional nature at the same time? It is true that reductionistic materialism do not allow to emotion consider as 'existent' since it is considered only as an 'epiphenomenon' of material particles. The reductionism is false when it becomes untrue of its original intention: to find the 'arkhe', the first

principles. The valid foundation of a consequent reductionism can be only a universal principle. Therefore, the inanimate 'materialistic principle' becomes false when presented as the ultimate universal principle. Reductionism, when modified to search not for ultimate principles, but ultimate 'particles', loses its scientific credit. But reductionism, when exploring the whole range of possible ultimate principles, may be scientific when selects the universal principle. We select the life - and mind-principle to be the universal principle of the Universe. Therefore, the most scientific reductionism require to work with such concepts as 'emotions' , which are considered as un-scientific in the materialistic reductionism. In a world-picture which is natural, even the natural folk-traditions may get a context of 'hard science'.

If the Universe as a whole is of the nature of consciousness, it could be sensitive to the other factors of our inner world of consciousness; to something that is not of a purely abstract logical nature, but embodied also as a feeling. Of course feelings have their own logic too - and in natural circumstances it is unidirectional with thinking that can be put into words. Would it be possible to expose such a sublime concept as the Universe to a word of this kind, which apparently goes beyond logical objectivity, which in fact tends to be utterly subjective; to the world of feelings that is so often considered to be uncertain, illusory and unreliable. Why should it be necessary to reduce this great, glorious, grave and impressive Universe to, and expose it to such an "erroneous thing" of uncertain origin, like meotions? Does it not necessarily mean to degrade or confuse the concept of Universe? How can the most stable factor, the "material" Universe even be compared with human feelings considered to be the most uncertain of anything that exists in our civilisation? First of all let us consider that the mentality of our civilisation has come under the magic spell of inhuman and demoralising materialistic science and technology. No wonder that a demoralising materialistic culture denies the role and importance of feelings in our society and especially in the Universe, which is considered to be entirely material. In contrast, my investigations have shown that human feelings and feelings in general are the most important factors of the common field of consciousness that has a central role in human societies (Grandpierre, 1995, 1997, and see below).

Let us examine whether we have evidences to prove the spiritual nature of the Universe. Let us take the first evidence: these are the evidences of natural religions. What part does the Universe, the world of stars play in the history of human culture? According to every religion of nature, the starry canopus, the heaven, where the most beautiful feelings,

the greatest, eternal feelings of our soul belong. When we are extremely happy, feeling that our happiness brightens up our soul for a whole lifetime, we say even today: I feel I am in heaven. Nor is it accidental that lovers feel they must choose a star under the effect of their most perfect feelings. Why, what will happen if they choose a star? What in the world can a star do for them? Obviously lovers feel that the eternal beauty of their love has been lit up and guaranteed by the star. But for this purpose the star must be sensible of the feelings of the lovers and receive them into the glitter of its fire, carry them over to eternity in order to keep them aflame even when the couple are not alive any more. It is this love star that connects even lovers separated from each other temporarily and ensures them of the eternity of their feelings, the miraculous accomplishment of their happiness. Let us go on looking for another kind of evidence: let us try to find the traces of heaven in Hungarian folk-poetry. In days of old in the popular world of emotions man felt much closer to the starry sky than today. He watched the sky in a way different from a superficial, materialistic person of today whose brain and eyes are deadened by knowledge that alienates. In Hungarian folk-poetry the twinkling of stars shows the way to outlaws. But what kind of way is it? Perhaps at night or in a forest to help him them find their way home? No, not this sort of earthly way is meant. It is meant a way that leads through the world of feelings, which leads them to their lovers. Just look at this piece of the treasure of Hungarian folk-poetry: "Stars, stars, shine brightly / Show the way to a poor lad / To a poor lad show the way / Because he can not find another girl like his lover's". What did the man of old times feel as he was watching the world of stars? On a recording by the Muzsikás group entitled *It is not the Same as it Used to Be* there is a song called "Lullaby". The lyrics of this song is a masterpiece of ancient Hungarian folk-poetry that shines into the secrets of heavens at once. "I went out in front of my door / I looked up to the great high heavens ". This means that the other-world, the heaven is so real that is right under our very nose, what is more, we can smell the lower part of the other-world from here, from the Earth, as we ourselves are also included in that other world. " I went out in front of my door / I looked up to the great high heavens / I saw that heaven's gate was open / I saw that heaven's gate was open / I saw that heaven's gate was open" - repeated three times to emphasise the fact that she has seen it open, since something has been opening for her. " Inside I saw the door to heavens / Inside it I saw a little round table / There was a cradle swinging on it / Next to the cradle was our lady Mary / She was rocking it with her legs / Blowing at it gently from her mouth /

Just go to sleep, you Lamb of God / It is out of love that you have come into the world." What is all this stuff about, what kind of baby's cradle is rocking in the sky, what kind of baby has come into the world? It is all clear from the title of the folk-song that this lullaby is sung by a real mother to her own earthly baby. But the intimate love that connects a mother to her child is like that connecting a girl in love to the heavens and the world of stars. It is the same intimate feeling, the same experience, and that is why it is evoked. The nature and quality of intimacy, the love of existence is just as strong between the star-world and our inner self as it is between mother and child. Hereby the baby is rocked by our Lady Mary, herself behind the gates of heavens, in the world of stars, while the mother rocks the baby down here on Earth, because the baby has been brought forth out of genuine, that is heavenly love. Genuine love is as if it had come down from heaven, since it fills up all the sky, it pervades the whole Universe just as the Universe necessarily pervades everything that it contains -- except for those who consciously exclude it from themselves. The world of stars and the world of feelings are here in direct contact, they communicate with each other as a child rocks itself to sleep as it floats from this world into another, heavenly one. This natural, intimate knowledge has been ousted by the alienated type of modern knowledge, with the intimate view of the stars having been replaced by the world of bloated gas-balls. What a scientist of today sees is that there is a smudge over there, a bloated gas-ball and all you have to know about it is that the closer you get to its centre the higher its pressure gets - and so on. But love exists even in today's culture and lovers still feel the passage, the network connecting the depths of their souls with the world of heaven. In the natural world-view heaven is at the same time the home of our souls as well, the other world to where our soul can find its way back after the death of our earthly form. The other world is right here in front of our eyes. It is not something highly abstract and mystic, but the most real of anything that exists, a world under our very nose. And that is why the mother calls her child "my little star", the same thing that calls his or her mate. It is because he or she feels just as intimate relationship with his or her lover as the true half of his or her inner self does with the world of stars .

Regarding the fact that materialism is based on the physical world-view, which itself is founded on its ultimate principle of the least actions, I reached a conjecture that materialism is relevant only for inanimate systems. The presence of biological organisms and consciousness, together with the universal presence of the cosmic organising principle shows a

more substantial picture of the Universe than materialism. Mankind decided for many centuries to work out materialism and build up a systematic scientific knowledge on a materialist basis. It seems to be more reasonable to suggest that mankind should review its decision and stand for a more true and more substantial and more scientific world-view which includes the study of the cosmic organising principle as well. I attempted to study the ultra-sensitive processes of the Cosmos, as signs of "action-in-distance" effects (Grandpierre, 1995a, 1997a). I reached an interesting result by the study of the origin of solar activity. I presented strong arguments that the nuclear energy production of the Sun is regulated partly by planetary tides (Grandpierre, 1996b). In that case, the Sun is an ultrasensitive open system, which shows the most important life phenomenon: that of "stimulability". A new scientific world-view seems to emerge, in which not only the Sun is a living system, but most of the stars, planets and galaxies, together with the Universe as a whole (Grandpierre, 1988; Hoyle, 1993).

The Physics of the Evolution of Consciousness

The evolution of consciousness - as the evolution of the Universe shows us - actually is in contrast to the presently accepted evolutionary theories, which want to build up the whole from the parts. In reality, evolution started from the whole and progressively differentiated into parts, from the timeless-spaceless form (e.g. the 'implicit order', 'pre-space' and 'subuniverse' concepts of D. Bohm, J. A. Wheeler and K. Sharpe), through galaxies, through the development of the Solar System and the Earth, the appearance of the biosphere and mankind, until the development of smaller and smaller subsystems of consciousness, until the human individual. 'Cosmologies of wholeness' are emerging (see Laszlo, E., 1993). All of the cosmic evolution formed sub-systems within systems. Evolution begins with 'wholes', 'elements' develop only later on. Every system originates as a subsystem of a larger, inclusive whole. The organisation of the sub-system is made by the creator system, and the organisational factor acts from within, as well. This fact assumes that the creator system is in a certain way transformed into the to-be-created subsystem, the 'whole' is transformed to the 'part'. This global-local transformation is a necessary condition of the generation of the new system. Therefore the Universe acted continuously as an agent with organisation ability, and is progressively transformed from the largest of its subsystems into the smallest ones. The trend of evolution is

simultaneously going towards a higher complexity and this way towards more and more complex subsystems, and in this way the real evolution is also accompanied by the state of becoming more and more complex and towards higher and higher forms of consciousness. Ervin Laszlo remarked: Evolution acts on species and populations and not only - or even mainly - on individual reproducers. Individual variations do not contribute significantly to the emergence of new species. Nevertheless, the evolution of subsystems simultaneously react to the parental, inclusive whole through their common organising principle. History shows that western societies preferred mostly one side of this cosmic trend, the more and more divided and separate complexity, the specification to individual human being, at the expense of general context and cosmic laws, drawing away and retiring from the growing collective order, loosing the connections to the larger, embracing levels of existence. As Andras Angyal expresses it the autonomous, self-maintaining tendency dominates over its dual brother, the homonymous, self-completing tendency (1941), the basic need for direct, sensual, artistic life-experiences. According to my research, three basic natural instincts are our ultimate drive factors. Besides the life-instinct, sustaining our individual life, and the species-instinct, sustaining the life of our species, we are also driven by a natural power to experience all what is possible, to know everything, to live every possible experience, every life, to fill with meaning our life, to join with the Universe and participate in its natural drive towards its fulfilment. I call this long-ignored instinct, which is present in all of us, creations of Nature and the Universe, the world-instinct. The world instinct is directed to sustain the life-functions of the Universe. The world-instinct is the basis of the other two, and it involves the imagination, intuition, curiosity, the desire for a meaningful life, to form healthy, alive communities, to correspond to larger units, to the Nature and the Universe (Grandpierre, A., 1991), therefore it is the world of the primary perception.

If we do not want to leave the road of cosmic evolution for ever, we may find again the path how to reveal our natural completion, the already hidden powers which the all-embracing cosmic evolution generated in our genes and basic constitution. Unfortunately, it has not been explored until now, how far we reached from our first-handed, natural drives, and what is the meaning that the Universe mediates to us. In order to form again a human, collective society, in which every individual sees the meaning of her/his activity and life, a meaning which is able to give an ultimate, lifelong satisfaction, we should recover the destination of mankind, and, besides it, the destination of the Universe. There is not any other task,

which may be able to give a common perspective to all of us, than to explore and regain our destiny, to regain the harmony with the Nature and the Universe. Only this elevating and touching task may give back our harmony with ourselves. To do this, first we have to explore the nature of the Universe and understand the super-organism called biosphere - an organism with a collective consciousness.

Origin of Consciousness and its Relation to Emotional States

Psychological researches teach that consciousness is vital when it is filled with emotional drives. Positive emotions enhance the dominating role of the neocortex in the brain activity (Völgyesi, 1962). If consciousness works through EM fields, its activity in every step involves changes in its EM field and the interaction of its EM field with another EM field - outer or of an inner subsystem. It means that EM induction results, which generates naturally a higher level of electromagnetic activity besides the overlapping and superposition of the two interactive EM fields. Consequently, the interactive EM fields when they are active, generate a subsidiary EM field, a 'daughter' field. This induction effect is suggested to be the physical basis of the 'group effect', the enhancement of the basic activity level when entering into interaction with another human being, consciously or without being aware of it. Therefore, the consciousness can not be regarded developed and healthy, if its 'exploration drives' and 'general activity drives', emotional motivations and desires are passive, and are hindered by the aware consciousness. Consciousness develops through the phenomenon of '*emotional infection*', widespread among children, and also present in rituals and when masses of people form a community. In new-born children, the movements originate from spontaneous emotional reactions, their sources are within the emotional system (Wallon, H., 1946). At the origin of evolution, in contrast with the traditional conception, an *undivided state* existed in which the outer and the inner were not separated. The propensity to interact originates from the nature of emotions, of their mutuality and field-nature, which is the basis of the well-known phenomenon of '*transference*', the easy transfer of emotions in the trance-state from one person to another. This is the basis of the **transference of emotions**, its epidemic character, as well as the wide range phenomena of mass psychosis and collective impulses, when the individual consciousnesses merge into one single common consciousness (Wallon, *ibid.*).

The Common Field of Consciousness

Emile Durkheim (1899) showed the existence of collective psychological fields. He showed that the reality of the collective psychological fields is of the same degree as that of the physical fields, since it is measurable (through social indexes), and its relations and consequences show the same rate of stability. The collective psychological field generates a remarkably stable rate of suicides in a given nation. Individuals forming the society change from year to year, but the rate of suicides remains stable. This rate is different in different nations, and seems to be determined by moral factors. Moral life is *per se* a collective phenomenon, and the collective psychological field is an expression of the background moral fields of individuals. Our moral convictions are a certain kind of concerted brain activities, formed from our common characteristics. This is expressed also in the changes of the social indexes of e.g. suicide. Durkheim observed, that the activity of the society follows a seasonal rhythm, its intensity grows from January to July, and then decreases. Durkheim pointed out, that the suicidal index of the people living in marriage shows the same ratio to that of people of the same social class being widows, indifferently from the selected class. The simple reason for this is that the judgement of the society is of a general character, independent of the actual group of the society, although the social conditions of life sensitively change from group to group, therefore becoming widow would show a larger relative loss in the lower classes. Moral judgements are closely related to emotions, therefore we are led to the inference that common field of consciousness consists of emotions.

The rate of suicides is observed to grow with the age, and shows a tenfold increase from the young to old age. Accepting the plausible view that the social environment of the people does not show necessarily a more and more hostile face as they grow older, but remains more-or-less the same during a lifetime, we observe the existence of an effect independent from the immediate social environment. This effect is probably mostly of subjective character indicating the growing sensitivity of the people to the accumulating social influences. This effect lays an emphasis on the 'tuning' of individuals to the different influences, to the weakening of their 'psychic immune system' because of manipulation.

The 'everyday consciousness' of the people is the expression of useful informations, beliefs, habits and traditions. The basic behaviour, the *modus vivendi* and the actual activity is mostly determined also by the world-view of the person, which directs her/his system of values and conscious decisions. Determining factors of the world-view are the

religious faith and the cohesion to the nation. Analysing these factors, we may observe that beliefs, habits, religions, traditions are related to the prehistory of the nation and mankind. The fundamental influence of the world-view to our activity is certainly explained by the still surviving factors of Nature and Cosmos within our psychic life. In this way, the everyday consciousness seems to be determined by the Universe, Mankind and nation - therefore, by the common fields of consciousness.

Emotions are regarded frequently as to be ruled out from the process of cognition by western civilisation. A principle almost generally accepted in scientific communities is that "emotions and thoughts should be separated forever". Nevertheless, thoughts are closely related to emotions, they may be regarded as the expression of them, as two stages of the same process. Our brain is made up as a community of $4 \cdot 10^{10}$ neurones. From this enormous number of neurones, only ten-fifteen million is waiting for stimuli. The time-period of the building up and decay of the activation potential is around 10^{-3} s. It means that our brain activates 10^{10} neurones in a second. This data is consequent with the data (DriscHEL, 1972; Scheffer, 1994) for the information processing speed of the whole brain in forms of neurones, 10^{10} bits/s. Only a millionth or less is the speed of the conscious information processing, less than 10^3 bits/s. The process in which the 'unconscious' becomes 'conscious', is based on a certain selectivity, which may be paralleled with the process of the development of a conscious thought from an unconscious emotion. Blocking the emotions involves blocking the basis of consciousness, while keeping emotions does not lead necessarily to uncritical decision, since it is the normal way of the brain's activity to select the information by their content and choose which should be involved in aware consciousness. The large territories of unused neurones sign that our emotional world is poor as compared to its original capacity in a rate of 1/4 000. There is not any other part of the body which would work with such a low efficiency. The electric work made by the heart, e.g., is 40-60 times of that of the brain's as a whole (Rein, G., 1995), although it also participates in the general atrophy of the organism. It is important to note here, that the decrease of the basic level of the EM activity of the brain decrease of health of the whole organism (Oldfield, Coghill, 1988). The organ which is not used, dies. It is known in medicine that a whole range of illnesses is related to the anomalously low activity of brain, between cerebral inoculation and subsequent cellular malfunction of the body (Oldfield, Coghill, 1988). Psychosis, neurosis seems also to be related to undervitality of the brain. The brain's activity is largely parallel to the emotional intensity, when we feel that something important is

happening to us. The brain may conquer back its lost territories, long-forgotten vast fields of untouched neurones, at a rate of 4 000 times, and million times of that value, when the activity of the brain is at full speed. Compared to that state, our present use of the brain is something when we see through a small tube which shows one-millionth of the field of vision without the tube. Since the under-utilisation of the brain leads to the self-destruction of the organism, psychic and somatic illnesses, emotions can not be exiled from the centre of the brain to its highly controlled peripheries. Elevation of the consciousness of mankind is unimaginable without the elevation of its basic level of activity, without a significant role of emotions.

After recognising the importance of the term 'primary perception', I became aware of the same term already introduced into science. The phenomenon of 'primary perception' is known in child psychology (Pearce, 1977) denoting the extrasensory perception of children. Eloise Shields presents an evidence that telepathic ability peaks at age four, at which time their parents may begin to be aware of such activity (Peterson, 1974). The term 'primary perception' surfaces in electromagnetic context, as well, denoting the perceptions of plants through EM fields (Backster, 1968). Primary extrasensory perception was known in ancient cultures, such as 'seeing' (látás) in the magic world-experience of ancient Hungarians (Vekerdy, 1974).

The 'merged consciousness' within proper conditions, by the help of a careful attention, represents a higher expression of human existence, as in cases of entering a new era of mankind, like the origin of natural sciences at the Greeks or the renaissance, or at the formation and enlargement of collectives or groups. If we tend to develop a more evolved form of consciousness, we have to live with emotionally driven states of consciousness. The more the consciousness will be filled up with human, natural and cosmic motives, love, eagerness to act and desire to fulfil our destination, the more it will open up, and the more it will be active, powerful and intense. Consciousness when finding its natural field of action, its natural roots and natural harmony, is able to regain its cosmic power again.

It is important to point out that the suggested inductive model for the generation of consciousness offers a way for the 'freedom of thought'. The laws of the complete, original electromagnetism of Maxwell (1892) are richer and more correct than their simplified forms presented by Heaviside and Gibbs, known as Maxwell-equations, valid only within special conditions. Recently, Cornille (1995) pointed out that the presence of the

Ampere-force in the complete EM implies that a charged capacitor can accelerate its centre of mass without external help if it has an absolute motion with respect to ether. One can expect that spontaneous effects may be induced by the Lorentz force. I suggest that this spontaneity may be related to the observed spontaneous phenomena in the inorganic and organic world, especially in the collective fields of consciousness, where spontaneous induction may regularly occur.

On the Destination of the Universe

There are experiences for reaching the completion of our personal lives, for recognising our special talents and working on their developments. Nevertheless, when we reach a special emotional state, filled with galvanising powers, sometimes we experience a one-to-one correspondence to the genuine, original content of our personal life, when whole worlds being born inside us and getting flame with the lights of Eternity. Cosmic pathways open up in us only when our motivations are alive in a rate behind a certain threshold, and when a natural force develops them into a higher form of existence. Emotions are at the core of the existence, and behind their accepted role of colouring the fixed forms of reality, they have the power to shoot up the reality into a much more complete, fresh, nascent, creative and natural state. Emotions are creative, and creative imagination is the basic principle which forms and drives our lives, as well as the Universe as a whole (Petöcz, 1838; Froschammer, 1877). Emotions, like a field, have a nature to be shared by others, to extend to landscapes and enter into other consciousness. When emotions are alive and vital, they driving us to share them with the others. The material universe is only a skin of a much more alive, filled Universe, the body of which is constituted of emotions which are much more real than the known forms of reality. This reality is an intense, free, sparkling river of natural forces of emotions. We can conceive that the known material Universe is only a far side-descendant of the core Reality, of the real Universe, of which the fundamental nature is emotional, therefore much more free, inductive, self-fulfilling and human. Losing this real Universe generates a schism and an emotional emptiness, and the void is filled - as history teaches us - with brutality, hate, power and destruction.

To illustrate the occasions of free emotional inspirations, I present here an example. Shortly before her 17th birthday, Rosalyn Tureck was playing the Bach fugue in A minor from Book 1 of the Well-Tempered Clavier when she lost all awareness of her own existence. As she came to,

she recalls, she saw Bach's music revealed in a completely new light, with a new structure that required the development of a novel piano technique. Over the next two days she worked out this technique on four lines of the fugue and then played it at her lesson. Her teacher told her it was marvellous, but impossible, that it couldn't be done.

All I knew, says Tureck, was that I had gone through a small door into an immense living, green universe, and the impossibility for me lay in returning through that door to the world I had known.

Tureck went on to become a renowned concert artist, the first woman invited to conduct the New York Philharmonic Orchestra and author of several books, including one in the works that links the structure of Bach's music to two physical theories. (Weisburg, 1987).

The experience of the deeper, alive Universe still survives on the rare occasions of the sparks of inspirations. Regarding the fact that social influences have a propensity to accumulate and amplify each other, high forms of states of consciousness, if widespread, could serve as a basis of a more human reality. If we have a realistic picture of the present, it helps in maintaining this reality, but the exploration of a deeper, more real reality is easily able to surface and resurrect when more and more people and collective shares the proper experiences and attitudes. When awakening the alive green universes within us, mankind may reach a stage in its evolution when above a critical threshold, these alive green universes become interactive, and begin to form a basis of a new type of reality, a much more human and much more conscious one.

The unified concept of the Universe offers a way to solve the long-standing paradox on the infiniteness of the Universe. If the Universe is an eternal being, it is hard to conceive a definite evolution in it, at least from a definite initial state towards an improved final state. Therefore, western civilisation, acknowledging the vital needs related to actual, material conditions, accepted the notion of "creation ex nihilo". Nevertheless, if the initial state is nothingness, it is hard to escape the conclusion that the final state will be also a nothingness. Therefore, the aim for evolution in time, apparently is related to an ultimate nihilism, expressed in the saying "we came from dust and will return to be dust again". If the Universe had been arisen from nothingness, it seems to be inevitable that it has to fall back to its parental state, nothingness again. The way out of this apparent dilemma is indicated by the circumstance, that the Universe as a whole, as well as our emotions and thoughts, do not have spatial and time-like extension. Therefore, they do not have an existence we get used to in the space-time. Nevertheless, this does not mean that they are not existing at

all. The fact that the Universe and that our mind exist, indicates that there exist another dimension of existence besides space-time. This dimension may be termed as "imaginary", pre-spacetime dimension. The Universe as a whole and our psychic events live in the imaginary world, which possess no less reality than the spatio-temporal existence. Time arise when the communal sphere appears. Time starts with multitude as the general ordering principle of the interactions of the elements of the multitude. Time is generated to give a communal dimension to existence. Communal dimension is related to evolution. We humans are collective beings in our fundamental level of existence. Collective interactions offer inspiration, excitement, social amplification and selection to our imaginary emotions and thoughts. Therefore, we are deeply rooted in time-like existence through our social nature. But besides it, we are at the same time ultimate beings, since our deepest and strongest emotions and mental experiences may possess another fundamental reality, which is the parental reality of the space-time multitude. Therefore, the ultimate basis of our existence is related to our eternal spirit, to the law of magic logic and emotions. The timeless character of logic and emotions is observed when regarding the eternal moral laws, eternal validity of $2*2=4$, eternal validity of logical truths.

Psychological research shows that the efficiency of tuning in between different people is determined largely by emotional connections, i.e. transpersonal connections are the most effective between lovers, parents and children, friends tuned to each other. This result suggests that mankind may heal itself if we are able to tune us more effectively to the natural sources of consciousness, to the natural powers living in us, revealing the natural beings behind the manipulated masks which are developed by an unnatural society's norms, and when our emotional bounds are strengthened towards the wider ranges of our personal existence, towards Nature and the Universe.

Consciousness may regain its natural functions only when finding a partnership with his parental, subtler minds, with human communities, with Nature and the Universe.

References

- Allport, G. W., 1961, *Personality: Pattern and Growth in Personality*, New York: Holt, Rinehart & Winston, Chap. 6, p. 130.
- Angyal, András, 1941, *Foundations for a Science of Personality*, The Commonwealth Fund, New York
- Backster, Cleve, 1968, *Evidence of Primary Perception in Plant Life*, International Journal of Parapsychology, **10**
- Baldwin, J. M., ed., 1902, *The Dictionary of Philosophy and Psychology*, MacMillan, New York, 1902. Vol.II., 35.
- Bauer, E. 1920, *Die Grundprinzipien der rein naturwissenschaftlichen Biologie*, Berlin.
- Bauer, E. 1935, *Theoretical Biology*, Moscow-Leningrad, IEM, in Russian (1967, in Hungarian).
- Bohm, D. in "*Physics and the Ultimate Significance of Time*", ed. by D. R. Griffin, State Univ. of New York Press, 1986, 183.
- Bornemisza, S. T. 1954, *The Ultimate Secrets of Nature*, Vantage Press, New York
- Cornille, P. 1995, *The Lorentz Force and Newton's Third Principle*, Canadian Journal of Physics, 73, 619-625.
- Drischel, H. 1972, *Einführung in die Biokybernetik*. Akademie-Verlag, Berlin, 1972, 26, Abb. 6.
- Durkheim, E. 1899/1960, *Le Suicide*, Presse Universitaire de France, Paris
- Edwards, P., Editor-in-Chief, *The Encyclopedia of Philosophy*, MacMillan, New York, 1968
- Eliade, M. ed.-in-chief, 1987, *The Encyclopedia of Religion*, MacMillan, New York
- Froschammer, J. 1877, *Die Phantasie als Grundprinzip des Weltprocesses*, München, Theodor Ackermann
- Grandpierre, A. 1988, *The Possibilities of the Self in the Present Culture*, Forrás 1988/2, in Hungarian
- Grandpierre, A. 1990, *How is Working the Sun?*, Solar Physics, **128**, p. 3
- Grandpierre, A. 1995a, *Peak Experiences and the Natural Universe*, World Futures, **44**, 1-13
- Grandpierre, A. 1995b, *Quantum-Vacuum Interactions in the Brain*, in the Appendix of *The Interconnected Universe. Conceptual Foundations of Transdisciplinary Unified Theory*, by Ervin Laszlo, World

- Scientific, Singapore, 113-117.
- Grandpierre, A. 1996a, *A Pulsating-Ejecting Solar Core Model and the Solar Neutrino Problem*, Astronomy and Astrophysics, Vol. **308**, p. 199
- Grandpierre, A. 1996b, *On the Origin of Solar Cycle Periodicity*, Astrophysics and Space Science, Vol. **243**, p. 393
- Grandpierre, A. 1997a, *The Sun as an Extremely Sensitive Interconnected and Regulated System*, in "Chronobiology and its roots in the Cosmos", 3rd International Workshop, High Tatras, Slovakia, September 2-6, 1997, ed. M. Mikulecky, pp. 145-152
- Grandpierre, A. 1997b, *The Physics of Collective Consciousness*, World Futures. The Journal of General Evolution. Vol. 48, 23-56
- Grandpierre, A. 1998, *The Universe in the prehistoric magical Hungarian world-view*, manuscript
- Hoyle, Fred, 1983, *The Intelligent Universe*
- Itzykson, C. and Zuber, J.-B. 1980, *Quantum Field Theory*, McGraw-Hill Inc.
- Landau, L. D. and Lifshitz, E. M. 1959, *Course of Theoretical Physics*, Vols. 1-10, translated by J.B. Sykes and W. H. Reid, Pergamon Press, London**
- Laszlo, E. 1993, *The Creative Cosmos*, Floris Books, London.
- Laszlo, E. 1995, *The Interconnected Universe. Conceptual Foundations of Transdisciplinary Unified Theory*. World Scientific
- Maxwell, J. C. 1892, *A Treatise on Electricity and Magnetism*, 3rd ed., Oxford, Clarendon Press
- O'Connor, J. and McDermott, I. 1997, *The art of system thinking*.
- Oldfield, H. and Coghill, R. 1988, *The Dark Side of the Brain. Major Discoveries in the Use of Kirlian Photography and Electrocrystal Therapy*, Element Books, Shaftesbury
- Pais, D. 1982, *The Greek Philosophy*, Gondolat, Budapest, in Hungarian
- Pearce, J. C. 1977, *Magical Child*, A Plume Book
- Peterson, J. 1974, *Some Profiles of Non-Ordinary Perception in Children*. Seminar Study for the Degree of Master of Arts. Univ. Of California, Berkeley
- Petőcz, M. 1838, *Ansicht der Welt. Ein Versuch die Höchte aufgabe der*

- Philosophie zu lösen.* Leipzig, F. A. Brodhaus
- Popp, F. A., Li, K. H., and Gu, Q. 1992, *Recent Advances in Biophoton Research and Its Applications*, World Scientific
- Popp, F.-A., 1994, *Modern Physical Aspects of Mitogenetic Radiation (Biophotons)*, lecture presented at the Intern. A. G. Gurwitsch Conf., Moscow
- Scheffer, L. K. 1994, *Quart. J. Roy. Astr. Soc.* **35**, 157-175
- Sharpe, K. 1994, *The Origin of the Big Bang Universe in Ultimate Reality with Special Reference to the Cosmology of Stephen Hawking*, *Ultimate Reality and Meaning*, Vol. 9, p. 61
- Thomas, L. 1974, *The Lives of a Cell. Notes of a Biology Watcher*. Bantam Books, Toronto
- Turgonyi, Z. 1993, *The Foundations of Philosophy*, Egyházfórum Alapítvány, Budapest, in Hungarian
- Vekerdy, Tamás, 1974, "Tools of the Effect of Theatre - by the Teaching of Master Zeami. Psychological Analysis." Magvető Kiadó, Budapest, in Hungarian
- Völgyesi, Ferenc, 1962, *Medical Hypnosis*, Medicina, Budapest, p. 71 in Hungarian
- Wallon, H. 1959, *La role de l'autre dans la conscience du moi*. *Enfance*, No. 3, 4, 87-97
- Weisburg, S. 1987, *The Spark. Personal testimonies of Creativity*. *Science News* 132, 298-300