

# Worldviews within the context of modern science<sup>1</sup>

[ Horst W. Beck \* 1993-99 ]

## Content

### I Introduction

II The Naturalist Research Program: An Evaluation of Methodological Naturalism as a failing Explanation Power for Information, Functional Structure, 'Gestalt' or Life. Sketches of the Intra-Scientific State of Discussion  
- on View [1]

III Some Impacts onto a Research Program based on the everlasting Acting of the Triune God to lead His Creatures and Creation in the Visible and Invisible Hemisphere - Subsidiary Thesis: The Christian Belief in Creation affects the Content of Science

III,a The Unconditioned Creating Act of God or the Sovereignty of God over the Created Conditions of the World

III,b The Creatio Continua et Servanda - God maintains, acts with, and accomplishes Creation

III,c Visible and Invisible Reality of Creation

III,d Creation is the Dwelling of Man - the Maximum 'Anthropic Principle'

III,e Periods of Salvation History as Phases in the State of Creation - Creation is Salvation History (Heilsgeschichte)

e,1 Actualism and Uniformitarianism

e,2 The Form of Change and Shape of Loss of Creation - the Question of Theodicee - which is the Best of Worlds?

e,3 Some Reflections on 'Time' of 'this Aeon' and of the 'Whole Creation'

IV The Relevance of the New State of Discussion to World Views and Paradigms in Science - Subsidiary Thesis: The Recognition of the Role of Beliefs in Science should be extended to a Plurality of Beliefs among which is the Belief in Creation

V Final Theological Comments

## I. Introduction

We have recently to handle with two concurrent options in basic approach of science, namely two stubborn views [1,2]:

***[View 1]: Science knows of no authority besides itself for the explanation of the world and needs no philosophical or worldview guardianship (postulate of autonomy).***

***[View 2]: The world, life and the human race included, is an intellectual mystery, perhaps creation of a creator and his acting realm. To say it philosophically: the last bottom of reality seems to point to a intellectual will with information management. Science conduces to an understanding of those conditions of reality or creation. Worldview or a religious standpoint and science depend on one another (postulate of correlation).***

One possible worldview in the bunch of personal convictions could be for instance the prominent notion of biblical Christian belief and understanding of the world is to confess and to comprehend *the cosmic reality as the habitation of man and thus as God's creation*. Creation as an ecosystem yielded to man has its beginning and end within the history of mankind. Man bestowed with reason - whether he postulates himself as a chain link in a history of evolution or he beliefs on a creation granted reason by his Creator - will try to explain the world under the tension between the above mentioned mutually exclusive views. Of course you can discuss other dialectics between worldviews and science in a pure philosophical manner.

Western philosophy and the history of knowledge

have ultimately been a struggle between these poles ever since the turning point of history - a.C. respectively p.C. The present contribution does not stand outside of this struggle. It is an attempt to supply some bearings within the context of our present state of knowledge.

The main thesis would allure to sketch out concrete examples of approaches in science. But this can not be the sense of this short lesson<sup>2</sup>. As this view as a chosen challenge is not broadly accepted even under Christians, we have to restrict to give some hints to the aporetic situation concerning 'evolution' as a scientific explanation approach and to concentrate to some basic critical and more metaphysical issues. The abbreviating style of more or less confessing statements might be not very convincing for every reader. I have also to note a common misunderstanding concerning relations between belief and science: it is not the outreach of science to "proof" or "misproof" metaphysical presuppositions.

Even one of the strongest approaches to 'emergent rationalism' by Mario Bunge<sup>3</sup> ends in postulates as: by evolution the brain and its mental processes have emerged and as a unavoidable consequence a mental language has risen to pretend 'emergence' as proofed. You can imagine the circle.

" Belief in creation or on a last intellectual condition for the whole within the context of modern science" is a modest and argumentatively weak program: to show on the one hand, that evolutionistic naturalism is a belief and has failed to establish its challenge by strong scientific means and to show on the other hand, that the basic elements of belief in an reasonable stimulation of all reality are not withstanding to results in science.

I know the call to give strong proofs to convince e.g. scientists that naturalism does not hold to explain the wonder

of creation in so many aspects, e.g. information. For the nobel laureats F. Crick or M. Eigen 'information' is nothing else than an epiphenomenon by molecule-evolution and Werner Gitt gives eristic statements on the wonder and will depend character of 'information'<sup>4</sup>. It is disappointing that there is no crucial proof for the one or other view. Case by case the fruitfulness of a special view could be discussed. The sciences have no sharp boundaries to metaphysical questions. So in biology, cosmology and mainly in history.

Horribile dictu, I challenge the freedom in 'meta'physical or 'proto'physical speculations based for instance on the biblical revelation and Christian triune doctrine to gain a harmonized view of space-time creation as ecosystem of man. The only conditions for this metaphysical approach are to be reasonable honest to biblical revelation, the Christian doctrine and stable results of science and history. Of course one can formulate similar metaphysical biases for other religious or worldview standpoints. One should not require 'proofs' in a narrow scientific sense! In the focus of this issue lies the view of visible and invisible hemispheres of creation as a whole. The metaphysical outreach leads to a kind of 'proto'physics of existence spheres 'S<sub>i</sub>'. This differentiation of reality spheres pretends a space-time understanding, which avoids the usual conflicts of Christian belief or other spiritual doctrines with evolutionistic time scales. This should be also a ramp to grasp better the whole creation scenery in breaks of God's judgements in accord to biblical tradition: we are now living in 'this aeon' with special conditions after the fall and after the great flood. We are in hope for new forms of ecosystems for the redeemed man. According to my modest vision, there can be a research program in proto-physical terms for a cosmic conception with fruitful touching points to theoretical physics and their basic values.

The risk is based on a broader research.<sup>5</sup> This special issue is moreover not to identify with 'Special or Scientific Creationism' in accord to the American nomenclature. The biblical issue is also no kind of fundamentalism<sup>6</sup>. In the focus lies the presupposition, belief, conviction, acceptance or whatever the right term would be, that beginning and telos [aim, goal] of creation is man, a radical anthropocentric and Christocentric principle. This principle is centered in the doctrine of the Triune God and the incarnation of Christ. The contingent creation ad extra focuses to man as telos, imago dei, and mandatar [supervisor] of the whole creation.

As one consequence of this principle follows the radical idea, that there can not be any "matter" in existence, which is not controlled by *information* and *will*. For instance, the last scenery of matter reality handled by the theoretical physicists, the so called 'quantum vacuum' at the Planck wall<sup>7</sup>, should be interpreted as a will controlled 'information field'<sup>8</sup>.

The Planck wall is everywhere for every time in the space-time and not restricted to a big bang singularity. The famous American physicist Kip S. Thorne says<sup>9</sup>: ***"The quantum foam is allover (ubiquitous): in the midst of a black whole, in the interstellar space, in the room, in which you are sitting, and inside of your brain"***. The acting agencies concerning will and information handling are specialities of religion and worldview<sup>10</sup>.

The 'quantum vacuum' as will controlled information field, which "tunnels" measurable effects in the quantum statistic manner through the everywhere micro-Planck wall, is thought as in any way controlled by metaphysical instances<sup>11</sup>. The invisible hemisphere of creation is in any way seen as animated, no empty quantum vacuum matter field. Einstein, looking for the hidden variables behind the quantum curtain, was on the one hand on the right track. But seeking for mere

matter causation was the wrong way<sup>12</sup>.

One feels inclined to start by investigating the claim of 'pure' science [View 1; Chapter II]. After that, using view [2] as leading idea we will try to profile the Christian view as the Western tradition and one worldview example [ Chapter III ]. Finally, an attempt will be made to allocate statements about the destiny of creation that are indispensable to Christian faith, to modern knowledge and world views [Chapter IV]. A neutral position is excluded from the start. So a fair discussion of possible standpoints should follow. It is an indispensable part of the freedom and dignity of cognitive and inquiring man, that he can gain knowledge about essence only by faith and intercourse [ Chapter V]. Thus acknowledgement of the unsettledness of matters is the modest aim of this contribution.

## **II The Naturalist Research Program: An Evaluation of Methodological Naturalism as a Failing Explanation Power for Information, Functional Structure, 'Gestalt' or Life. Sketches of the Intra-Scientific State of Discussion - on View [1]**

In 1959 the biological establishment celebrated the centennial of the publication of the 'origin of species'. The evolutionary view founded on Darwin's ingenious theory of selection was no longer questioned - at least not aloud. Biology had got a grammar, all science had received a leading idea: 'from big bang to human spirit'. Science now meant shedding light on the details of this grand cosmic process of self-organization. Any research done outside of the guiding paradigm 'cosmic evolution' is no science<sup>13</sup>. One generation later the state of intra-scientific discussion has changed remarkably: It is not too much to state a loss of plausibility of evolutionary approaches in comparison with their intended explanatory

power. This prudent statement is sufficient backed by valuations of competent scientists without touching the field of meta-scientific world-pictures or metaphysics

A characterizing review of the theoretical crisis is given by Michael Denton, a molecular biologist who denies any religious motive behind his work.<sup>14</sup> Bruno Vollmert, one of the most renowned German macromolecular chemists and convinced of the theory of evolution, critically compares his own decade-long efforts with the approaches of his colleagues (from Miller to M. Eigen). His result: there is no plausible 'natural' path of synthesis leading from the world of monomeric molecules to the functionally organized world of polymeric molecules found in organisms<sup>15</sup>. At international conferences, top experts of the chemical aspects of evolutionary theory exchange their results. The ISSOL congresses held every three years have, according to the German founding member Klaus Dose, become some kind of a measure of the growing pessimism about research<sup>16</sup>. Why such a pessimism when insight into macromolecular structures and the amount of available data on biochemistry are steadily growing, when even genetic engineering is becoming a menacing possibility? Seen this way, the progress in knowledge is indeed enormous, both in quantity and in quality. It is hardly manageable. Nevertheless we find that the progress in knowledge about biochemistry does not sustain theories of evolution. On the contrary, it even hampers attempts to find answers to the key question, 'how the process of molecular self-organization from the primordial organic molecule to the complexly structured cell developed'.

Commitment to briefness does not allow for more than a few hints: Ever since the sixties the biological macromolecules that carry life have been sequenced and stored in the form of electronic analogies. The beginning euphoria

about having obtained the means necessary for presenting molecular pedigrees that correspond to expectations about the phylogenetic tree faded away when concrete results appeared. Biochemical "missing links" turn out to have the character of "data of desire" just like those missing fossils. The higher the number of analyzed protein sequences, the stronger becomes the position of a molecular typology of organisms that tends to confirm the traditional morphological typology observed in the world of organisms. Michael Denton has drawn up a promising research program aimed at a molecular classification of the realm of organisms, which by its precise numeric equidistance parameters renders all notions of gradual transitions, whether postulated for the past phylogeny or for modern development, obsolete. It is noteworthy that this result of biochemical typology was obtained unexpectedly by research undertaken under the leading idea of gradual transitions of species. Maybe in this rather stern area of research this will be sufficient to reject the idea of a molecular phylogeny within the framework of the Popper theory. The amount of data available is growing steadily and outgrowing the capacities of storage devices. Presumed trend: the higher the number of distinctive macromolecules of organisms employed for similarity tests, the stronger will be the position of the theory of typological equidistance.

The above mentioned intrascientific loss of plausibility of monocausal theories of evolution is partly connected to the phenomenon of 'life' in all its fullness as a subject of research. It is still today a predominant notion among scientists that phenomena may only be dealt with in a 'naturalistic' way, i.e. they are to be explained entirely as results of established physical and chemical laws. Only in doing so is one dealing with genuine science<sup>17</sup>.

No lesser than Ernst Mayr<sup>18</sup> shows us how strongly

this naturalistic 'Hempel-Oppenheim mode of explanation'<sup>19</sup> is still demanded for constituting biology as an exact science. Biology as a science is to go without typological, essential or teleological terms. What can not be reduced to an expression of physico-chemical basic laws at the micro-level may only be described in terms of population dynamics and parameters of gradual alteration. From the point of view of the present stand of the theory of science and knowledge such demands seem not only arbitrary, but also inappropriate to the phenomenon 'life', even when tainted with naturalistic ideology.

Critical rationalism emphasizes a necessity to adapt theory making and aims of research to the object investigated. This alone permits theory tests and makes falsifications possible. Investigations into molecular similarities reveal a necessity to introduce hierarchical typological terms even when a reductive approach is chosen.

Other research aspects of the bios can be employed to show how results, maybe obtained under Mayr's reductive premises, may enforce a broadening of the scope of explanatory terms. The Nobel laureates John C. Eccles and Karl R. Popper have discussed insights into brain physiology and deduced a three-worlds model<sup>20</sup>: world I 'physical objects and states', world II 'states of consciousness', world III 'objective world of information'. None of these aspects of the world can be reduced to one of the others, although world I remains the substrate of worlds II and III. Both experts stick to the evolutionary view, but they admit that any attempt to form a theory of emergence 'materia-information-spirit' in line with a monocausal theory of evolution is bound to end up in contradictions to the present state of knowledge. Popper even grants his friend Eccles the admission that 'consciousness - spirit' (world II) is the primary reality, which can be imagined as existent even without the substrate of world I. The question is,

if not all 'biological' research and explanation gets into touch with all these three world aspects.

This question is virulent when the relation between the genotype, which is determined by research on the molecular level, and the phenotype, determined by mainly macrophenomenological research, is assessed. The reductionist-naturalist view assumes that the phenotype can be completely explained by investigation into its genes. Under this premise observable mutations of genetic macromolecules were the carriers of a hope to make plausible a gradual, evolutionary change of organisms from primordial cells to mammals. This hope is more and more frustrated. The reason for this is that genes are not controlling the phenotype, but it is the phenotype that controls its genes during ontogenesis. Moreover, it seems that gene mutations are induced and supervised by the phenotype in order to increase the scope of variation and enable an optimal fit of the phenotype into specific environments. The scope of genetic mutability, whether random or controlled, seems to be limited within 'basic types'. Gradualism does not find any clue in this field. The phenomenon of genetic mutation leads to the same barrier as the similarities of sequences.

The above-mentioned three-world-model of Popper and Eccles plays a vital role in the assessment of the relation between genotype and phenotype. The activation of genetic information in due time is induced by the phenotype as a whole. Physico-chemical models provide no clue for an understanding. To become helpful for the understanding of processes of this kind, biology will have to enter into the hitherto almost untouched sphere of hierarchically controlled processes of information. This would mean coming into contact with the aspects of reality of worlds II and III.

Independent on biology, information research has

reached a high standard of differentiation in both theory and practice. In his article 'Information: The Third Fundamental Quantity'<sup>21</sup> the informatician Werner Gitt gives a brief abstract of the basic theorems:

"There is no information without a code. There is no code without an agreement. There is no information without a sender. There is no chain of information without a spiritual originator in the beginning. There is no information without a spiritual source; i.e. information is essentially a spiritual, not a material factor. There is no information without a will. There is no information without the five hierarchical levels of: statistics, syntax, semantics, pragmatics, apobetics. Statistical processes do not generate information."<sup>22</sup>

In biology, this has to be taken into account when the polarity of information between genotype and phenotype is considered. When the process of activation of fields of sequence activation of many in the genome of the cell - hierarchically controlled by the 'higher resort' of the organism as a whole and aimed at synthesizing functional or structural proteins - is analyzed by means of information theory, it becomes evident that the inducing agent is not the genetic information itself. It is not even true that genetic information constitutes a construction plan of the phenotype as the entire organism. The image of a matrix of synthesis fits better.

A well known fact supports this image quite vividly: a gall wasp lays an egg onto the leaf of a tree. The tree reacts by producing a comfortable gall-wasp-lodgement (house) and providing food for the larva. For this purpose leaf cells are differentiated. No one would expect the genome of leaf cells to contain a building-plan or construction programs for a gall. The building-material for leaf cells proves malleable enough for heteronomy. The results of information theory must be disappointing to researchers who used to take the explanatory scheme of biochemistry and mutations for sufficient to support a theory of gradual evolution.

Similar experiences have been made during the

search for strategies for autocompilation of computer programs: it is impossible to formulate an algorithm (strategic program) for reaching a higher level of organization. Or, to put it simple: information does not come into being on its own<sup>23</sup>.

'Synthetic-monocausal' theories of evolution, i.e. such that follow the naturalist ideal, prove to be self-contradicting. The Viennese system theorist Alfred Locker criticizes unreflected terms of biology<sup>24</sup>: 'e-volutio' means 'un-folding' of an already present, information-containing reality. Evolutionary terms can only be generated under this terminological premise. The embryologist Erich Blechschmidt uses anatomy to demonstrate that the term 'evolution' is justly applied only to the process of ontogenesis, the development of the mature shape from the germ of a plant, an animal, or a human. Curiously enough our everyday language knows of no term to describe the complicated idea of a thing that develops from a lower to a higher degree of complexity by means of its own power. Obviously this notion is related to no evident experience.

A few hints ought to be sufficient to make the stated loss of plausibility of theories of evolution in central fields of research evident. The result is easily abstracted: 'Life' as the primary reality battles reductionist explanations both in questions of origin and of present connections. The naturalist leading-view, according to which world aspect I (Popper - Eccles), the physico-chemical substrate, is the "real" reality from which explanations for everything else can be derived, must be admitted to be a failure in every field. 'Life' in all its aspects is the primary representative of reality. The chemist Bruno Vollmert comments on the results obtained in his field of research, macromolecular chemistry<sup>25</sup>:

"It is not the first time a hypothesis is rashly promoted to the rank of an established fact. But never was such a dubious hypothesis as that of the self-organization of materia (matter) and evolution by

mutation and selection spread and propagated all over the world as a fact established by scientific research with such an eagerness by so many scientists and science-journalists. This can only be recorded with regret as an incursion of the irrational into the field of science. The old myths of creation have not been driven back - if they have at all - by facts obtained by experiment. Instead, they have been replaced by a modern tale, that was clad with the coat of a scientific theory called 'self-organization of materia' or 'mutation-selection mechanism' or 'evolutionary strategy'. If the results of investigations into the DNA are regarded from the point of view of macromolecular chemistry (DNA and proteins happen to be macromolecules), we find that the constantly repeated formula of mechanisms of mutation and selection as explanations for evolution lack any scientific basis. From all that we know from experimental evidence, not even the genesis of macromolecules like DNA, RNA or proteins from presumed primordial broths (fluids) can be explained."

The philosopher Alma von Stockhausen finds very clear words<sup>26</sup>:

"To identify the process of evolution that pretends to develop life from death by means of the 'principle of selection' with the creating act of God, means to identify God and Lucifer dialectically, or, in other words, to call the act of killing good. God's act of creation and redemption cannot be betrayed more profoundly than by means of the theory of evolution. Not only is the meaning of all history, the loving union of God and man, perverted into its opposite, the process of self mediation of the complete by its parts. The act of revolution itself, the rebellion against God as the Lord of history, is clad into a coat that veils all antagonisms."

One great reaction of grief over this death is the New Age movement with its loud demand to establish a holistic science. Are there any alternatives? Until Kant the realities of astronomy, biology, and history were taken as 'creation'. Thus there was no need to explain the genesis of the galaxies or how the orbits of planets had come into being. Newton took their stability as proof for the existence of a creator. Kant and Laplace brought the revolution by asking how the realities of the present cosmos could be explained as forth-comings from

rougher conditions of the cosmic past. This is the new approach behind all modern cosmological concepts. Kant had already given the philosophic formula of the alternative. In case the enlightened mind should find the idea of creation, i. e. the notion that all that is ordered must have been created by God, untenable, there will remain only one alternative: the unity of nature including the realm of organisms would necessarily have to be explained as the result of a continuous development. This is no doubt the unspoken motive of all cosmological concepts of the present, not least the 'standard idea' of the big bang. So Kant was the first to think about starting conditions that would lead to fixed tracks of motion. His hypothesis, according to which the particles of the substance of the world could come from chaos to ordered orbits by means of the dynamics of natural laws, is probably one of the most revolutionary thoughts of the 18th century. So Kant delivered a bold sketch of a 'self-organization' of the solar and planetary systems from shapeless starting conditions.

We shall see that this revolutionary idea is pursued until today and that the genesis of the world with its variety of shapes, all the way up to the living creatures, is deduced from instabilities and ruptures of symmetry. Lastly, the entire modern cosmology, cosmogony, all attempts at explaining the world that occur in modern science, are founded on this revolutionary hypothesis.

The French mathematician and natural philosopher Laplace also developed a theory of the development of the planetary system from particle gas - probably independently from Kant. To Newton and his predecessors like Kepler, Tycho de Brahe, and others, the quest for the causes behind the lasting stability of the very complex planetary system was an essential one and answerable only by hinting to the divine hand. Then, towards the end of the 18th century, Laplace

recalculated the orbits of the planets, incorporating improved observation data and mathematical knowledge and, like Kant, traced the subject back to the question of its origins. Divine action was no longer required, neither to create, nor to sustain, the orbits of the planets. Asked why he had deleted God from his space mechanics, Laplace answered: "I did not need this hypothesis." - *hypotheso non fingo*.

What strikes about both Kant and Laplace is their boldness: what can be said about one solar system can by analogy be presumed about all imaginable galaxies. Still none of them wanted to view their bold theories - extending ideas about single stellar orbits to hold as explanations for the genesis of the entire universe - as evidence against the existence of a creator. Kant limited his views about the origin of the universe to the 'rawest aspects of being' of gravitating masses. He explicitly excepted life from any naturalist-evolutionary explanation. Still, since then everything has been subdued to that view, until it, by mercy, eclipsed in our day. Since Kant and Laplace, the fascinating power of the idea of an evolution has sunk deep into our mind and created a notion, according to which everything that is old is also more primitive, less complex, than any present state of matters. This notion has almost reached the state of an a priori point of view. It all begins with hydrogen, today we have the human mind which reflects about an evolution from the primitive to the complex and labels the result as science<sup>27</sup>.

The evidence from the present state of discussion in the fields of physics and cosmology is sufficient to reveal that this habitual view is a metaphysical one and forms an ideological a priori postulate, not a stringent result of research. It is in contradiction to all experience with the laws of entropy and information. Not long ago the Russian astrophysicist Troitskii gave an example for the freedom to turn basic assumptions of

astronomical theory making into their opposite: there is no need to suppose that the beginning of the universe must lie in a structurally poor point of mass explosion. On the contrary, it is possible to assume an initial state of high complexity in a static universe, which then leads to the present state by way of devolution. All astrophysical data is accepted and remains meaningfully interpretable. This reveals the internalized notion of a development from the lower to the higher as not based on experience.

'Cosmic fossils' like background radiation and red shift can be seen as pointers to structurally rich states of the past just as the geological fossils can be interpreted within the framework of a theory of mega-successions of ecological catastrophes without any loss of substance.

Conclusions of chapter II: Methodological naturalism cannot explain evolution from 'matter' to man because it does not regard all matter controlling meta-regimes as fundamental causation in creation. Empirical data suggest that scientific naturalism is insufficient (p.4).

First, contradictions arise with "the present state of knowledge" from attempts to explain the emergence of spirit from information, and the latter from matter. There is no mechanism for the spontaneous emergence of complex from simple molecules and no explanation for discontinuities at the molecular and organic level (pp. 3-4).

Second, reductionist attempts to explain the phenotype in terms of the genotype contradicts evidence for the converse. This evidence consists of: (a) ontogenesis controls gene activation (p.5), (b) the phenotype induces and controls mutations (p.5), (c) mutations are limited to within 'basic types' (p.5: no gradualism).

Third, there is no experience of information, whether

genetic or electronic, emerging spontaneously, i.e. naturally (p.6). Moreover, assuming that it does result in self-contradiction (Locker, p.6).

Conclusion: explanations of the existence of information, of spirit, and of processes characterized by downward causation in terms of the self-organization of matter have failed (p.6).

Historical background: The transition from explanation in terms of God's creative work to explanation in terms of material causes was accomplished by Kant and Laplace in physics (p.7).<sup>28</sup>

General conclusion: Methodological materialism is a metaphysical belief (p.8). Therefore, it can not gain more than a concurrent methodological status compared with the here pretended issue of basic causation regimes which are initially and recently Creator induced and controlled and mediated by created will centered agencies 'behind' the micro-Planck curtain. There is no 'pure matter' as basic causation at all! The nowadays reached status in philosophy of science based on the Popper impact of critical rationalism as 'theory pragmatism' is to check the results of research and make up your mind.

### **III Some Impacts onto a Research Program based on the Everlasting Acting of the Triune God to lead His Creatures and Creation in the Visible and Invisible Hemisphere. - Subsidiary thesis: The Christian Belief in Creation affects the Content of Science**

-

The center of the Christian message, namely that in Jesus, the carpenter's son from Nazareth in Galilee, the creating God became man some 2 000 years ago, in the following generation had to make its way against all the established

philosophies and religions of its time. In an environment moulded by religion and philosophy, Christian groups tried to put the essentials of their faith into a nutshell. In the first centuries, the early church struggled to find formulas and made them compulsory in synods. From the beginning it was important to proclaim the one God as Creator of heavens and earth in contrast to different views of gods and the world. Further, the one Lord Jesus Christ was to be confessed as the Son of this almighty God of creation and salvation. The so-called Nicæan creed of 381 is the basis of the creeds of almost every denomination<sup>29</sup>:

*We believe in one God, the almighty Father, Creator of heaven and earth, and of all that is visible or invisible; and in one Lord Jesus Christ, the Son of God, the only Son, begotten from the Father before all aeons, light from the light, true God from the true God, begotten, not created, equal in nature (homousion) to the Father, by whom everything has become existent..*

Its beginning reveals the importance of the Christian belief in creation<sup>30</sup>. The task of Christian theology is to explain the creed in the context of the prevailing philosophy of science and religion. The present contribution is an attempt to do so. Basic elements of Christian faith in creation are to be named and their meaning explained *within the context of modern science*.

### **III,a The Unconditioned Creating Act of God or the Sovereignty of God over the Created Conditions of the World**

All creation is brought to existence by the unconditioned creating act of God. To characterize this unconditioned act of creation the Hebrew language employs the term 'bara' [בָּרָא]

\_\_\_] = coming into existence immediately from the sovereign will of God. The Latin theological term is *fiat ex nihilo*<sup>31</sup>. It is very interesting that physicists are today concerned with an unconditioned yet causal coming into existence from a *quantum vacuum*. They tend to use the same term *ex nihilo*<sup>32</sup> as a cipher. Since Christian belief in creation makes the same cosmic reality a topic, the respective explanatory intentions on must be clarified. According to the Christian view, a will and cognitive centered reality of the word precedes and conditions every energetic or substantial feature of creation. St. John has coined a basic expression of our tradition: *In the beginning was the Word, and the Word was with God, and the Word was God* (John 1:1).

It is well known that the Greek text here uses the term "logos" [λογος]. Is it a mere accident that the sciences are named with expressions that incorporate this term - like e.g. bio-"logy"? For the proceedings of a scientific symposium about science in the age of information the title "In the beginning was information" was chosen<sup>33</sup>.

The sovereign word of will of the creator - who is independent of and transcendent to creation - makes creatures appear at their set time and in their proper place. That means, orders of space and time are results of creation. Space and time as absolute categories in the Newtonian sense would be abstracts and thus alien to the biblical perception of creation.

### **III,b The *Creatio Continua et Servanda*- God maintains, acts with, and accomplishes Creation**

According to the biblical record of creation there is no being, no 'phenomenon', that is not included in the sustaining

and altering act of the Creator. The latin theological term is *Creatio continua et servanda*<sup>34</sup>. Since Descartes, Newton, Kant and Laplace, the different variants of positivism, empirism and evolutionism and especially since the claim of theoretical astrophysics to substantiate itself on its own, the history of occidental science is quite on antagonistic terms with this view. Since Newton the theology of creation was step by step forced back to the weak position of a so called *deism*<sup>35</sup>. Some kind of divine initiation is politely accepted. That way it seems possible to avoid a clash with a naturalist, causal view on science. Where is the possibility for a coming together of Christian creation theology and modern science?

The British theologian and science theorist Thomas F. Torrance has very carefully worked out the mediating term of the contingency of all phenomena accessible to science<sup>36</sup>. Basic terms like causality, correspondence, natural law, timely order, become questionable themselves and reveal themselves as bridging terms in need of clarification and terms of reconciliation with the notion of creation.

### **III,c Visible and Invisible Reality of Creation**

The above quoted Nicaenian creed names God as creator of heaven and earth and of all that is visible or invisible. Biblical belief in creation does not declare any cosmographic world image compulsory<sup>37</sup>. Biblical authors and Christian theologians are all children of their time and this creates freedom as far as cosmographic bearings are concerned. Neither the Bible nor the Christian creed advocate any kind of cosmographic world image relevant to the sciences.

The distinction between the visible and the invisible, a distinction that dates back to St. Paul, does not have to stand back to any scientific differentiation of our time. It hints to the

limits of measuring-oriented physics and other sciences. The object of science is not creation as a whole, but only aspects of it that are accessible to measurement. This limitation of science confers a space for creation concerned and contingent interpretation of phenomena together with their specific order of time and space.

Relativist physics and its pioneer, Albert Einstein, did not accidentally leave Newton, Kant, and Laplace to re-establish a connection of relations of space and time to measurable phenomena. The ideal of research is to gain insight into a structure of fields of influence, out of which all kinds of forces, be it electrodynamics, gravitation, or their quantification at the micro level, can be understood.

Are there concrete research impacts from these biblical basic views? Let me come back to the above mentioned so called "quantum vacuum" behind the so called "Planck wall". This micro screen between the visible and the invisible realm of creation is characterized by some basic observables from our visible side of the things:  $h_0$  (Planck-effect-quantum inside the wall),  $c_0$  (wave or particle speed limit inside the visible),  $[\Delta E \times \Delta t \leq h]$ ; uncertainty of Heisenberg to measure tunneling effects through the screen between the visible and the invisible from inside the micro-curtain).<sup>38</sup>

The micro-Planck wall is everlasting everywhere concerning creation. We are triune creatures according to [PW]-body, soul and spirit and so far sharing creation reality on both sides of the screen. Theoretical physics deals statistically in gravity and electro-magnetic quantum field theory with the measurable reality "inside" the screen<sup>39</sup>. The suggested quantum vacuum behind the screen is in a speculative manner for naturalists a chaotic regime with accidental effects, but for biblically oriented Christians or people open for metaphysical causes a highly complex information field.

I list some issues of research around the Planck wall or the micro screen:

(a) The Nobel Prize winner (laureat) John Eccles has induced a fruitful interaction theory between mind and matter, between "the self and its brain"<sup>40</sup>. The 'self' of John Eccles exists 'beyond' the Planck screen.

(b) In accord to the fine tuning distinction of 'information' by Werner Gitt<sup>41</sup> there should be developed an individual or organism centered information theory controlling a whole organism. These organic controlled information fields are of conditions beyond the screen. Where and how are the interfaces of interacting? As in the Eccles-theory the brain cortex is the detector of beyond-information, one can suggest detectors of organic beyond-information in each cell. Molecular biology has totally failed to explain individual centered information activities.

(c) Lokajicek and his group, physicists of Prague, proofed, that quantum dynamics does not deal with pure chance. "Hidden variables" are bearing information and discover a 'deeper' causation of all micro-effects affecting all macro-systems<sup>42</sup>. The *primae causae* (first causes) are in the realm beyond the screen. Normal physics is dealing with *causae secundae* (second causes) within the Planck wall  $PW_0$ .

(d) The famous physicist G. Gamow has discussed worlds with other physical basic values<sup>43</sup> [h, c, g]. The above used metaphor 'beyond the screen or the Planck wall' indicates hidden or invisible creation realities with different basic values  $h_i, c_i, g_i$ . As the Planck wall is everlasting and everywhere, the other hidden worlds are also existent at each thinkable space-time point and of micro-influence to all events in our so called visible world. The invisible veils the visible. Experimental and measuring science is bound on the realm of the visible with our recent values  $h_0, c_0, g_0$ . But proto-physics as a consequent

outreach of theoretical physics should be broadened to a reality theory on worlds with conjunct basic parameters  $h_i$ ,  $c_i$ ,  $g_i$ . There seems to be only one basic creation constant, according to Eddington/Sommerfeld the whole number  $137 = \kappa[h_i \cdot c_i]$ , valid for all conjunct worlds. The metaphor 'quantum vacuum' for the reality beyond the Planck wall seems to unveil itself in contrary to a naturalistically stated chaos as a wonderful complexity of will and information controlled regimes. Christian theoretical physicists or all in metaphysics interested scholars are invited to evaluate such a on information based reality theory. Our visible and sensible world could be grasped as a special case.

The recent top of a naturalistic approach in cosmology or physical reality theory is the issue of Hartle-Hawking<sup>44</sup>. They start with the postulate of a random decay of the chaotic quantum vacuum as the embryonic bubble of our world. The challenging result: our material universe is described by a random wave function with no more reference to any contingent singularity of space and time. In accord to this naturalistic sketch the universe is stated as a self-contained entity originated out of the primordial quantum field named naught: the spontaneous generation ex nihilo.

Christians should pick up this mathematical armed challenge by interpreting the primordial substratum behind the Planck curtain in the above touched way: the invisible hemisphere represents a rich information controlled physical and animated structure. There is no causation ex nihilo or by any chaotic naught. Recent theoretical physics ends in mere metaphysical speculation. Christian scientists can avoid the circle of arbitrary naturalistic and uniformianistic postulates in proto-physics making a revelation bound alternative proto-physics as mentioned.

One pillar could be the introduction of the disjunct

parameter worlds. Surprisingly we have in our visible  $h_0, c_0, g_0$ -world some observable indicators for the value-quantum of  $h_i, c_i$ . All radiation from extra-galactic galaxies, quasars or other sources is periodically red-shifted<sup>45</sup>. One can suggest that we receive radiation tunneling through the Planck screen from worlds beyond. The periodic red-shift indicates a tunnelling effect by gaining photon-particle mass at cost of radiation speed or red-shift  $[\Delta c_i - c_0]$ . The sharp law of periodicity<sup>46</sup> of red-shift in all direction from any point of measuring on earth or in our sun system relates to  $[h_i, c_i, g_i]$ -worlds.

The astronomer Troitskii<sup>47</sup> has shown, that the gravitation field equations of Einstein can consistently be solved under the assumption, that the red-shift is the indicator of the decay of radiation speed from the emitting source to the observer in a none expanding matter universe. In accord to this theory, the background micro-wave radiation cmb, observable at each point of space-time within the Planck wall, representing the lowest temperature at 2,7 Kelvin and the highest peak of red-shift, is the remainder of an original everlasting and everywhere existing radiation with the limits of  $h_u \rightarrow 0$  and  $c_u \rightarrow \infty$   $[137 = \kappa\{h_u \times c_u\}]$  beyond the screen. This limit radiation may indicate the all creation bearing information regime, which has no atomic radiation source, touching all created elements and is contingently originated by the Creator himself. In front of the last top secret man's proto-physical speculation breaks up. There is no more physics or metaphysics, but one should bow the knees and praise the Creator.

The naturalistic approach of Hartle-Hawking as an ex nihilo theory, stipulating the quantum vacuum to the last random causation horizon, is hybris (arrogance) (in the exciting form of honest mathematical skills. Hawking himself has concluded and propagated in his bestseller<sup>48</sup>: the belief on a creator is now superfluous. Yes, we acknowledge his theory

as blasphemy and challenge.

Where are the Christian theoretical physicists and mathematicians to do the task in the sketched way in accord to biblical revelation and observable data as the book of creation? A. Penzias and R. W. Wilson have gained the nobel prize for discovering the "cmb" as it was believed to be the strongest indicator of a primordial fireball stage. The task would be worthwhile to understand the same phenomena the non naturalistic way: an everlasting vestige of God's creatio continua et servanda.

### **III,d Creation as the Dwelling of Man - *the Maximum 'Anthropic Principle'***

The biblical record of creation deals with a time order of creation as a whole between beginning and completion of all creation. God acts with created man, who is testified to have been made in the image of God, a knowing and answering partner of his Creator from the beginning. Non-human creation is the gift of an environment, an ecosystem, a house to live in. God accompanies man through the ages, judging and pardoning.

Karl Marx, probably based on his latently present "Jewish-Christian" education, coined the expression that the social and material environment is the complete body of man<sup>49</sup>. Here he is on biblical ground. Here is a formula for the strongest anthropocentric principle, which curiously enough is finding its way into modern cosmology as the so called *anthropic principle*: The world is the way it is because it produced man.<sup>50</sup>

The strongest formula of the *anthropic principle* is, in the words of creation theology: Creation as a gift given to man by God depends on the relation of man to his Creator and

reflects, in its biological and cosmological state, the situation of man before God the Creator, Sustainer, Judge and Savior. This maximum anthropic principle seems least conveyable to the empirical sciences. Still, I suppose that there is, especially in this concern, an astonishing openness towards a plurality of interpretation of data from cosmology, historical geology, historical biology, and anthropology.

### **III,e Periods of Salvation History as Phases in the State of Creation**

#### **- *Creation is Salvation History [Heilsgeschichte]***

The Bible tells us of different phases in the state of creation: there is the original state, the loss of it, life in a de-ranged ecosystem until the coming of a global flood catastrophe with an almost incomprehensible impact on geology and ecosystems. Now we live on an earth ruined by geological and ecological catastrophes. The biblical prognosis: the present conditions of life will remain, danger to nature increasing, until this world will perish at the second coming of Christ, who will establish a new set of laws for the entire cosmos. In biblical language what will happen is the abolition of 'this aeon', i.e. this phase of the world, in favor of a new kind of creation. In the theological terminology this division of the history of creation into different periods with different states is called salvation history. The history of creation is salvation history (Heilsgeschichte).

The only way science can gain access to the history of nature is by inquiry into the present state, because only this can be subjected to observation and experiment in a laboratory or in the field. The above sketched, so called naive, 'mythical' record of creation appears to abrogate any correspondence with modern science. Therefore, some brief recommen-

dations to possible fields of discourse will be given:

### **e,1 Actualism and Uniformitarianism**

In the last chapter we have made a proposal to understand the visible and invisible hemispheres of creation as an interacting whole of ontological spheres. The fine-tuning of sphere constants  $h_i$ ,  $c_i$ ,  $g_i$  relates to the special existence conditions of atomic structured sphere elements and bodily persistence of creatures. It leads to very pretentious differentiations to grasp time dimensions of interacting spheres or to grasp (prehend) the notion of a 'history of the whole cosmos'. Each sphere presents its 'Eigen-Zeit', based on the special atomic clock, which is ruled by the special  $c_i$ -value.

It is the renewed question of 'time', which here seems fruitful. St. Augustines famous saying about the impossibility to grasp time is still valid: "As long as noone asks me, I know it. But if I want to explain it to someone who asks, I don't know."<sup>51</sup>

Physicists have unintentionally slipped into this problem: to measure time you need a scale that provides a stable unit of measurement. Until 1967 planetary and stellar rhythms of motion were used to define the second, and cosmic rhythms for gauging the background. Later the second became defined as related to the rhythm of pulsation of the caesium atom. This in turn is gauged by the velocity of spreading of waves "c" in electro-dynamic and photon-gravitating fields. The determining field variables have to be treated in quantum statistics. Here the definition line becomes a circle, because the Planck value is not a natural constant, but depends on the "c" which in turn depends on the field conditions and is thus itself dependent on the character of the field. This ontological relativism is overwhelmed by the proposed sphere

structure of the created cosmos. To put it short: Microdynamics have failed to present an absolute measure of time, i.e., a non historic, ultimate gauging unit, to correspond with that of macro-dynamics.

We cannot go back to any naturalistic simplicity. Each cosmic radiation, which we receive on our atomic detectors, broken by the Planck curtain has its own history through a number of spheres.

For instance: if a photon is emitted with a high start velocity by  $[c_i \gg c_0]$  its sum of running time on our own  $c_0$  bound time scale can be 'short', i.g. some thousands of 'earth-years' in our astronomical time. The space-time deepness of creation gains another sense: the linear stretching of atomic time and space scales in billions of years or in billions of light-years leads to pseudo-pasts, pseudo-futures and pseudo-spaces.

All beyond the Planck wall 'hidden' cosmic events, which appear red-shifted through the micro-screen as radiation spectras, give us weak information of a time-space order, different from our own. Mathematically transformed in our space-time reality, all events relate to our normal time experience in the history of mankind. That's very surprising! The history of events within our sphere  $[h_0, c_0, g_0]$  seems to be in strong relation to the real time of mankind. As those proto-physical speculations are very unusual, we'll give an additional help:

A reconstruction of the history of nature of the kind "what it will probably have been like" is employing the principle of the so called *actualism*.<sup>52</sup> It states that a scientific reconstruction of the history of organisms, the earth, or the cosmos, must take present experience as a measure, this being the only plausible one. If the laws of nature that form the basis of our experience should themselves be subjected to change within the course of history, this kind of reconstruction

would yield a pseudo-history, founded on assumptions of constancy or symmetry that cannot be substantiated by science.

Moreover, there is the general assumption of a mono-causal connection of effects that is itself of metaphysical or even mythological character. We are confronted with a myth of uniformity that produces dummy realities in both past and future.<sup>53</sup>

The physicist A. M. Klaus Müller chooses the parable of circle and tangent<sup>54</sup>:

"The tangent is a straight line that touches the circle in one point. This point is an image for the present. Suppose that the circle be the true course of history, which in this image is bent. The question is: are we really looking at the past along the line of the circle - or are we looking along the straight line, obtaining consistent results down to some earlier point of the line - the big bang - but still diverging from the true past? I doubt that the big bang represents the true past of the universe. Instead it is my belief that the big bang is the past we will necessarily yield if we look back from present conditions."

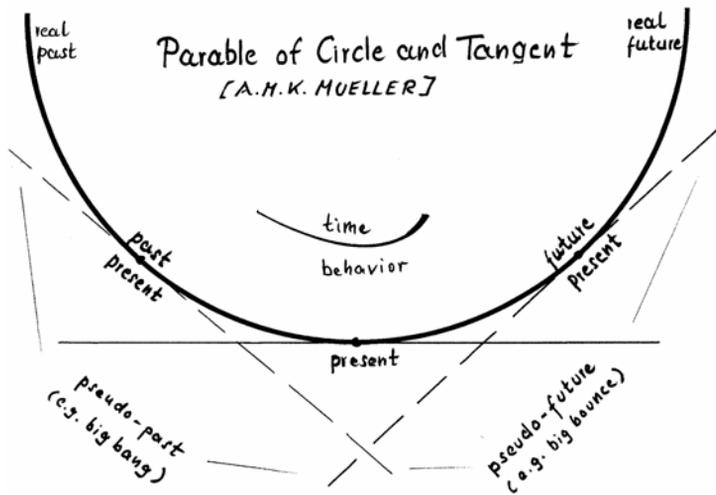


figure 1

The image of the big bang or images of phylogenetic evolution painted within this frame would be as such mythological. Thus the debate is not one of "science" against "myth", but one about substantiations of assumptions. This might prove to become a very frank discussion, in the course of which faith may fruitfully be introduced.

**e,2 The form of change and shape of loss of creation - the question of theodicee - which is the best of worlds?**

Another thing we have to think about is 'time and history'. Contemporary knowledge seems to enlarge our perception of the age of the world in relation to the known history of man to the nth. In this field there was a unity before the

scientific revolution. The biblical record is itself an expression of this unity. It is rooted in the relation of man to God. We said that the world as body and house of man reflects his character.

The most difficult question for creation theory is, whether it is useful to ponder about creation, cosmos, the world, without considering the time and status of man.

It is a kind of maximum anthropic principle<sup>55</sup>. As far as cosmographic dimensions of the world are concerned, the Bible is not bound. But it certainly is with respect to time and history and the distinction between the visible and the invisible. The beginning and end of this present phase of biosphere and ecosystem, the status of "this aeon", depends on the relation of man to his Creator. How can this view be considered within the context of the present biological and cosmological knowledge?

If we have to assume changes in value of the most basic physical data, structurally and historically, maybe even with catastrophic quality, then 'time' and 'history' should be understood in the spheric world view. An absolute Newtonian space, empty of events, and an absolute Newtonian time, independent on events, prove to be metaphysical a priori constructions that do not help us to understand the true history of creation. After the introduction of an ontology of penetrating conjunct parameter worlds - visible and invisible hemispheres - , the meaning of 'history' of the whole and especially of the eco-sphere of mankind is to question. What does the statement express: "Creation is salvation history"? [III,e].

Christians confess all reality as creation, depending on a creator. A deep question is on the stage, named the

theodicee question. Prima vista it does not seem to be a question of 'neutral' science, as science intends to grasp what reality 'is' and not what it 'should be'. As 'man' handles science, it is the question to understand his own status in the cosmos.

The Bible characterizes the present appearance of creation to the indwelling man as a result of the loss of its original quality. What counts here is the objection against an obvious paradox: *God is almighty. God is good. The evil in the world exists.* This problem is called the *Theodicee question*. How will an almighty and good Creator justify himself in view of the dimension of the evil in the world?

Certainly, 'evil' is an anthropomorphic expression and the sciences do not know of any terms that value conditions of life. And still the philosophical quest for possible different conditions of the world is at hand. Leibniz gave the well known philosophical reply: We live in the best of worlds that ever a God granting freedom to creature could produce.<sup>56</sup>

Theories of evolution, following the actualist notion, take for granted that the conditions we experience today were constitutional to every past situation and its genesis. In this notion the struggle for life and the death of each individual appear unavoidably as basic mechanisms to sustain life at all. It is indeed impossible to imagine better worlds, much less to construe them 'scientifically', since our imaginative power is limited to conditions we experience. They remain hopes and dreams. The biblical images of loss and future cannot be filled with material from present experience either. Their language is very correctly called mythological. The word, the meaning of which we perceive best, given to our kind of experience, is

probably the term 'loss'.

The so called second basic statement of experience - that in closed systems entropy tends to increase - is valid, beginning at the physical basis of thermodynamics and continuing through information theory and social rules. The natural trend is that towards a loss of ordered system qualities, even causing ecological problems. In spite of many claims and pseudo-theoretical efforts no mechanism worth considering has so far been presented that would serve for the explanation of the increase in active information, system functions, and quality of appearance within the world. Obviously only will, centered in a personality with cognition, consciousness and conscience is creative.<sup>57</sup> If God, the transcendent Sovereign, should decide to withdraw qualities from creation, the history of creation will become a history of loss in accordance with His will. There will be hope only because the same judging and withdrawing Sovereign will make a new beginning in His creative power (Psalm 104:29f).

Man is himself an agent inside the system and can therefore reduce entropy only locally and under conditions and at the cost of a higher increase in entropy somewhere else. According to creation theology, death and decay are neither original nor genuine aspects of creation. Hope for a better creation is not a possible scientific prognosis, and the present, lapso-morphous and fall-whittled, set of experiences does not permit the founding of a scientific methodology to deal with it.

The theodicee question about origin, quality and abolition of 'evil' cannot be answered by theories of different and 'better' worlds, neither by philosophy nor by science. Before this background, too, the record of creation between

original state, fall, and salvation, remains the only true story. Mere 'nature stories' or futurist scenarios will only produce pseudo-realities since they cannot take the divine acts of creation, sustaining and judgments into account.

Has this theological garniture any relevance to a better scientific explanation of the cosmos? Science tries to explain ensembles of events in the space-time to proved causation regimes. A vat without bottom the naturalistic way! We deepened the causation bottom to the information field of God's sovereign and contingent acts whereof the physical stratum remainder may be the 'cmb'.

One may hesitate to relate physical and theological terms in a such direct manner. Just this strong relation is part of the main thesis. Suitable to this issue, I dare to interpret further theological notions to the status of creation the conformable way: the narrative metaphor of Genesis 3 of the out-drive of early man of paradise can be fairly understood in the picture of penetrating parameter worlds as a step trough Planck walls.

The existing creation spheres are separated by micro-screens or 'Planck walls'  $[S_i, S_{i+1}]$ . Adam and Eve were after the fall, wordly spoken, 'out of Eden' in front of the door. The back step is hindered by the cherubim with swords (Gen 3:24). The fallen first man-pair experienced life the new way within our Planck wall, our  $[h_0, c_0, g_0]$  - world. Their individual identity persisted. They shared 'this' bodily life in solidarity with the other creatures under the conditions of physical and biological laws or special causation regimes of the post-lapsian aeon.

A fundamental expression of this status is the law of

entropy which means for biology decaying metabolic regimes and the whole network of nourishing: to corrode and to be corroded<sup>58</sup>.

As Thomas F. Torrance in a lot of writings emphasizes: time and space are to disclose by incarnation of Christ. Christ is the axis of space-time. Christ's resurrection 'body' is no more enclosed in the laws of the  $S_0$ -world. He is mighty to manifest Himself bodily through Planck walls. He appears suddenly 'bodily', to say in a 'body<sub>0</sub>', to His disciples and disappears the same way.<sup>59</sup> Sudden manifestation and sudden vanishing in the visible is not measurable in our time units. But the bodily phenomenon is fully stretched out 'in' our time.

Torrance pretends that the incarnatus, Christ as real man and real God, fulfils the whole of creation, the visible and invisible. Christ has not lost His creative potentiality during His incarnation<sup>60</sup>, touching all spheres of creation. His unlimited potentiality was praised in the hymn of Col 1:15ff. In Col 2:2ff the Apostle Paul endeavours the receivers to grasp the secret of God and His creation by Christ: "The secret is Christ himself; in Him lie hidden all God's treasures of wisdom and knowledge". The hermeneutical key to disclose Scripture and creation is the Incarnatus himself. He is the bridge between Creator and creation. In Him are hidden all secrets of visible and invisible creation spheres. To look at His incarnated and resurrected body is relevant to understand the physis (material nature) and the bios, to gain the suitable key for physical and biological reality. Honest to the biblical revelation, centered in Christ himself, one must not be shy to start from here in the categorical heart of physics and biology and risk common terms for both, theology and science. It is a strong battle

against naturalism in each outreach. We restrict to indicate some further consequences:

Thomas F. Torrance, as recently Wolfhart Pannenberg, require a differentiated creation-field-theory<sup>61</sup>. I hope to follow their tracks with the proposed sphere theory of creation. In his 'Theology of Creation',<sup>62</sup> Pannenberg identifies the bearing field power with the acting of the Holy Spirit. According to Torrance, based on Newton, spacetime can be characterized as the 'sensorium dei'. I dared the same in identifying the cmb originating basic radiation-information field [ $h_u \rightarrow 0$ ;  $c_u \rightarrow \infty$ ] with God's, or say precisely, with Christ's acting power. The danger of 'pan-theism' is in the scope. A strong personal oriented Trinity doctrine protects from pantheism. As the informatician Werner Gitt states<sup>63</sup>: there is no information without will stimulation. The cited basic field depends on the sovereign and free acting will of the Triune Creator. The transcendence of the Triune God against His creation could be spared in the precisely differentiated term 'information'. As Gitt states: 'information' is no mere physical or biological or technical category.

'Information' presents itself as a triune essence. For this view there is no other proof than the failing, to give a reductive 'physical' definition since fifty years, from J. von Neumann unto J. Weizenbaum.

In his letter to the Philippians the Apostle Paul confesses about Christ (2:6-8): "He, being in very nature God, did not consider equality with God something to be grasped, but made Himself nothing, taking the *body-shape of a slave*, being made in human likeness, and being found in appearance as a man ..." Our human shape is judged here as the case of

slavery. It is the body-shape beyond the original status. To risk the physical terms: we are, as the incarnate Christ shared with us, in the bodily boundary of a  $[h_0, c_0]$ -world. Christ 'went out' through the chain of Planck walls and dived in our Planck wall set. That's 'incarnation' in physical terms.

Our world set, with 'our' physics and biology is biblically characterized as a status of lost. In Rom 8,18-22 Paul uses bodily-physical terms to define the recent status and the hope of the deliverance of our bodies to the splendour of a new creation status like the unbounded body of the resurrected Christ.

Science within our Planck wall describes the laws of 'this' shape of world. We can call this shape 'nature' and the sciences, which explain this realm of creation 'natural sciences'. Naturalism is the monistic world view of this one world, which stands on its own.

The question arises: What is the 'history of nature'? On the base of uniform and monistic postulates the naturalistic approach comes to 'big bang - big bounce worlds', oscillating worlds, endless concurrent and selecting worlds, a random wave function for matter aggregates and so on, all in the time scenery of billions and billions of years.

According to belief in creation we characterize the scientifically a posteriori grasped totality of all things as a superposition of all mutual effects of created phenomenon. On the one hand we are sympathetic with the grand efforts of cosmological physics to find out a last united field theory of all mutual effects. But on the other hand there must be antipathy with the set of uniformitarianistic postulates of causality, symmetry, time and so called basic constants. There must be

a real competition between postulates of contingency and changing basic values which have to allow for God's sovereignty in His special and contingent acting with His creation.

### **e,3 Some Reflections on 'Time' of this 'Aeon' and of the 'Whole Creation'**

We are already faced with the question of time. Is there any sense to speak of the age of the universe, the whole? Reviewing the way to make models of the whole we knock to some naturalistic tricks. The first: reduce reality to the behavior of gravitating matter; the second: overlook the electromagnetic influence on structural regimes; the third: smear over all structure in matter aggregations to a super-fluid of mass; the fourth: forget all life aspects; the fifth: don't worry about the open micro-horizon with its hidden causation regimes; the sixth: postulate the constancy of basic values over all times and spaces. This way you get a closed naturalistic set of matter behavior which you can handle the model and mathematical path.

This did Albert Einstein making a space-time bunch to formulate a relativistic field theory in differential equation terms over a virtual geodesic particle path. It is very exciting, that until 1920 Einstein tried to find a solution for a static universe by introducing a cosmic anti-gravity term. His pantheistic intention was to avoid any singularity which would clash with his continuous and more aesthetically rooted worldview and his uniformitarian presuppositions. This way the question of an

age of the whole disappears.

It was about 1920 a kind of revolution, as John Hubble found a correlation law between the red-shift in the radiation spectra of cosmic sources and their brightness. Since this empirical correlation was interpreted as an indicator for an expanding universe, cosmologists found a 'big bang' solution of Einstein's field equations with that time singularity: Now the matter cosmos has its age: billions of years! Some Christians and theologians estimate this standard view as a strong indicator for 'creation' and very compatible with the doctrine of creation<sup>64</sup>.

For those the Hartle-Hawking issue is a challenge: no singularity in time and no edge of space: the self-sustaining matter entity needs no Creator! Hartle and Hawking have strongly criticized some ideal conformity presuppositions of too simple GRT-solutions of the so called FRW-worlds<sup>65</sup>. In the out of the quantum vacuum decay by the path integral method<sup>66</sup> deduced random wave-function of matter status, a destiny cosmos time arrow again disappears.

In spite of this challenging situation for big bang cosmologists - loosing a consistent theory for the s. c. standard scenario - they fixe on two observable data realms: firstly the named 'cmb' and secondly the red-shifts of spectras. But both data sets could be interpreted quite the contrary way: the 'cmb' and the red-shift as above signified.

I dare to significate the 'naturalistic' approach to establish a destiny age of the matter cosmos as failed, concerning the observables and the explanation power of theories.

True to the introduced hermeneutic principle, not

shying the term over-cutting between theology and science, as there is no pure 'nature' besides 'creation' and no pure 'scientific truth' besides biblical revelation, we dare to reevaluate the 'time' question.

In 'this aeon' recent mankind lives after the big flood, named 'Sint-flood', and the act of dropping out of Eden, named the 'sint-fall'. Both past events are actual in all mankind traditions. Should we handle this messages from the past as historical facts, which also touch the physical and biological realm? Concerning the sint-flood we are stired up by a fascinating publication of the two geologists Alexander and Edith Tollmann of the University of Vienna: "Und die Sintflut gab es doch (And there was really a 'Sint-flood')". Both are no 'creationists' and attack the Bible traditions! They emphasize to leave the 'actualism' and come back to a strong huge flood catastrophism. They date the global flood on 7 500 B. C. The real history of mankind and the surrounding earthly ecosystem bear the scar of this judgment 'sint-flood' by God<sup>67</sup>.

But what with the 'sint-fall' as a historical date with relevance to geology, cosmology, mankind and bio-spheres? Let me speculate:

Jewish mystical exegesis paints an exciting picture of the deepness of creation<sup>68</sup>: All creatures originate in the mind and heart of God and transcend several creation stages, the sefiroth, to reach at least the earthly body-shape. The sefira round the throne of the Creator is named 'the paradise' and the earth is His footstool. Jesus Christ used in His message on the mountain (Mt 5:35) the same picture citing psalm 48:3 and St. Paul described his mystical experience in terms of the sefiroth: he feels shifted through the sefiroth, the 'third heaven'

unto the 'paradise' "and heard words so secret that human lips may not repeat them" (2 Cor 12:5). The biblical revelation bestowed us with a fruitful view of the real 'deepness' of creation: space-time will not be understood in terms of random matter scenarios in scales of billions of years and billions of light-years, the naturalistic idolatry. The sketch of emboxed animated parameter worlds seems revelation like: a wonderful organized universe, rooted in God's throne and reigned by the Triune God, where Christ presents the mediator, the Holy Spirit His acting power and the angels His servants. That is no naive cosmograph of traditional ball shells! No painter can figure or design such a splendour of creation.

We suggest the sefirot stages or spheres, physically spoken, separated by Planck walls  $PW_{i,i+1}$ . Consequently we dare to interpret the 'sint-fall' as a convulsive shift of men's body-shape and ecosystem from the paradise most 'light'-shaped sefira to the utter 'gloomy' or heavy shaped sefira  $S_0$ .

The visible and the invisible hemispheres have their special characteristics. Our visible sphere is biblically valued as the shape of fallen structure, as 'this aeon', this world against the lost paradise and the hoped new world. The meaning of 'fallen' shape cannot be restricted to the moral realm, it has its concrete physical and biological expressions. In accordance to Leibniz the 'best' world which can be granted to a morally free man must have the shape to hid the Creator; deus absconditus. No rational proof of God should be possible. The 'free man' should have the naturalistic option 'etsi deus non daretur' to avoid any relation to a sovereign God.

The 'sint-fall' represents the deep separation between God and man. There are Planck walls between. Consequently

we have further on to clear the 'time' question<sup>69</sup>.

Let me take the manifestation of the resurrected Christ as a model: I take the two stories of Luke 24 in account where Jesus suddenly appeared to the disciples in His known body-shape, shared the way-'time' to Emmaus with two of them and afterwards shared 'time' in preaching and eating with them in Jerusalem, and disappeared at once. His bodily presence was in our measurable time. Begin and end of His manifestation lie in the secret of 'sudden' and can not be measured with physical clocks.

I dare to interpret 'begin' and 'end' of his body-shaped manifestation as penetrating respectively drawing back through 'our' Planck wall  $PW_0$ . Christ's incarnation by the way of the womb of a woman is another secret which may give a key to deeper understanding of human embryo-genesis in general<sup>70</sup>, but seems not to be relevant for our basic time question.

The manifestation model may offer a key to grasp 'begin' and 'end' of 'this aeon' the analogous way: The expelling of the first man-pair from Eden together with their whole life-sphere, their whole body-shape, could be understood as the shifting through Planck walls into the inner-set of 'our' micro-screen, the  $S_0$ -world. The 'pre'-history of Christ 'before' His incarnation and manifestations and His 'post'-history 'after' his ascending lie hidden in the realms of invisible creation-spheres. 'During' His Incarnation and manifestations Christ shared and fulfilled the 'all' (Eph 1:23).

Should we ask for any 'history' ore 'time-spans' concerning our recent 'fallen'  $S_0$ -world beyond the 'sint-fall'? We can imagine God's sovereign act of expelling man and his

ecosystem 'earth' in its astro-sphere into the recent stage of  $g_0, h_0, c_0$  -physics as a kind of 'big bang'. Many theorists of the 'fire ball big bang' state: there is no sense to ask for 'space and time' beyond. The sense to search for 'time' and reality beyond the 'sint-fall'-big bang scopes in questions to characteristics of the invisible, the for our recent sensorium hidden emboxed worlds  $S_i$ . Yes, there is 'pre-history' of earth, son-system, galaxies, meta-galaxies systems. But all this is in a quite another space-time order, which we can not describe in the  $g_0, h_0, c_0$  -physics, the paralogism of naturalistic physics. In this paralogism are rooted the pseudo-scales of billions of years and light-years<sup>71</sup>.

I guessed the complex and magnificent scenery of meta-galactic radiation sources, which is observable as radiation spectras on our atomic built detectors in the interior of our Planck screen  $PW_0$ , changed to  $S_0$ -radiation and reds-hifted by the Planck wall, in space-time orders 'beyond'. Without doubt, we can see 'real' histories of galaxies respectively 'quasars, but these are histories in their conjunct spheric 'eigen'times, wich appear modulated by our  $PW_0$ , to our time order  $S_0$ .

The naturalastic paralogism is the naive and uniformitarianistic prolongation in the conditions of our experienced  $S_0$  spacetime to pseudo-pasts and pseudo-futures. For geologists and palae-ontologists the 'sint-flood' is a kind of knowledge wall. Beyond this global judgment by the Creator lies a lost design of earth and biosphere. We cannot strongly reestablish this design with means of our post-flood experiences. The global flood paradigm seems very fruitful for these historical oriented sciences for all post-flood events and developments.

For cosmologists on their search for a common theory of the 'super-force'<sup>72</sup> and the basic causation regimes it would be a worthwhile offer to leave the 'naive' monistic one world view to gain a pretentious one. It may be that the mathematical skills of man can not reach this pretentiously differentiated creation view. I guess, that the whole and experimentally stabled recent knowledge of theoretical physics should not be abandoned, even restrictively reevaluated as a special case of a more complicated emboxed world  $S_{i,i+1}$ . The SRT and ART, the QED and GQD<sup>73</sup> are special cases for the  $S_0$ -world with on this special realm restricted validness. The 'sint-fall' is a strict barrier to  $S_0$ -knowledge! For Christian and biblically oriented theorists it may be a worthwhile task and call to outreach recent theories to conjunct hyper-theories in the scope of emboxed parameter  $[g_i, h_i, c_i]$ -worlds.

Let me close these reflections on 'time' with some suggestions:

(1) The time-question is philosophically spoken one of the most pretentious ones (Augustinus) and Christians should hesitate to give simple answers, either in adapting their opinions to naturalistic views or in the way of naive statements as 'we believe in the 'bishop Usher's chronology'.

(2) I dare further to imagine that the 'eigen'-space-time regimes in spheres of the whole, where for instance the histories of galaxies' could be handled in billions of 'eigen'-years, the special time-period of the sphere  $S_i$ , could in principle be commuted to the time-scale  $S_0$ . If the presumptively introduced periodical law of red-shift distribution should hold for a commutation factor<sup>74</sup>, all cosmological events could relate to the existence of man in a granted

creation as his ecosystem. This confirms the mentioned 'maximum anthropic principle'.

(3) The begin of 'this aeon' was signified as the 'big bang' of expelling man and his created environment to the special physical and biological conditions of 'now'. The shifting of any creation element through Planck walls to obsess other spheres must not mean to lose the 'pre'-spheric history or the broader spheric causation contact. As Christ has His special 'pre'-existence to his incarnation He has also His 'post'-existence and during his incarnation his 'co'-existence to the whole. In analogy it is to presume, that any creation element of 'this aeon' may have a conjunct spheric prehistory in different space-time orders, which counts for his 'Gestalt', his special representation in 'this aeon'. For instance: the 'age' of Adam, the first man, counts for 'Eden'-experience and post-Eden experience. The post-Eden age is named for 930 years. For the 'Eden'-age we have no measure out of 'this aeon'.

(4) In each radiation spectrum of extra-galactic cosmic sources a conjunct spheric history is hidden, which can not be grasped in our 'linear' time elapsing. The radiation running time for instance from a quasar source with the red-shift peak  $z = 4$  (suggested at the 'edge' of the measurable cosmos) which is 'linear' estimated to  $10^{10}$  years may be commuted by the red-shift factor  $z_u/z_0$  in our 'aeon-time' to less than  $10^4$  years. Another exciting example could be the 'cmb'. It represents the maximum red-shift peak of about  $z_u = x \cdot 10^9 z_0$  induced by the basic radiation field  $S_u$  [ $h_u \rightarrow 0$ ;  $c_u \rightarrow \infty$ ]. The commutation account ( $z_u/z_0$ ) shows no measurable time elapsing in our experienced world  $S_0$ . If, as I guess, 'cmb' is the remainder of the basic 'information field', ubiquitous at any

creation point in each sphere, it represents the prima vista 'timeless' ubiquity of information influence to all created elements. Naturalistic big bang cosmology puts consequently, in accord to its uniform presuppositions, the cmb source in the big bang scenario. We are here faced with the most important paralogism of the naturalistic idolatry.

(5) We suppose for an emboxed parameter world the representation of each created element or living creature in the hidden spheres  $S_{\geq i}$ . Suitably we can postulate 'deeper' causation bridges between existing elements<sup>75</sup>. For our visible world is valid: Science is dealing with causation bridges in accord to our normal experiences: *causae secundae* (second causes). Facing the sketched emboxed spheric world-aspects we have to reckon with a deeper causation hierarchy: will initiated *causae primae*. The naturalists are steadily facing so called Münchhausen lemmatas: they are endless looking for the 'last' pure 'natural' laws, finding in this hermeneutic circle nothing else than the stipulated 'quantum vacuum', which can not be a 'vacuum'. Paul Davies states: as 99,99..% of the mass-less cosmos reveals as vacuum, it must be of the highest interest for our research to understand the naught as the horizon of self-organizing the universe<sup>76</sup>.

(6) The biblical revelation relates all created elements, all creatures to the Triune Creator Himself. We have marked some basic notions to a creation doctrine in the modern context of science. The exposed differentiated creation view should be a stimulating if also inexhaustible program to a competing approach and research to the naturalistic way.

#### **IV The Relevance of the New State of Discussion to World Views and Paradigms in Science - Subsidiary Thesis: The Recognition of the Role of Beliefs in Science should be extended to a Plurality of Beliefs among which is the Belief in Creation.**

First, it is proposed that the belief in creation should function as part of a creation research program. This program has three components. (1) Reality was from the start complex, discontinuous, hierarchical, comprising both the material and the spiritual as well as the informational. (2) Creation is passing through stages that are parts of God's plan of salvation. Change consists of catastrophic devolution, not evolutionary progression. The uniformity principle is valid within [g, h, c]-worlds but not between dispensations. (3) It has a different ideal of explanation and science in that it takes certain created things as givens that need no explanation. Explanatory methodology is anti-reductionist.

During the past generation the careful observer will have noticed a shift in the situation of science. Science theory has revealed that we have no a priori method of research, least of all a naturalist one, that is independent of concrete investigation into a concrete niche of reality. 'Life' wants to be described in terms cognate to life. 'Life' is the primary reality. The cosmos is animated as exposed. The mystery of the origin is not unveiled to naturalist attempts of explanation. The growth of data resources in the fields of geology, astrophysics, biochemistry, bio-phenomenology, and bio-taxonomy, has brought no progress to the quest for origins. On the contrary, by revealing the enormous complexity of nature it even indu-

ced the loss of plausibility of reductionist theories.

What is the impact of the loss of plausibility of the evolutionary view to our world view? One possible reaction is agnosticism: there is no way of knowing anything about origin and end of our being. A different reaction is taking up the fight for a paradigm that must be kept alive at all cost. In the phase of destabilization of the hitherto guiding paradigm - this is a finding of Thomas Kuhn - the prestige of the epigones is called out<sup>77</sup>. Only this way can the levy of the 72 Nobel laureates by the Humanist Union of America be understood<sup>78</sup>.

Displeasure with the veiling of the true situation is steadily growing. Theologians calling for a disentangling of believing and thinking<sup>79</sup>, might lose the secret motives behind their way, which brought the loss of traditional dogmata (dogmas) of the christian faith. Processual modernists will perhaps tend to rally to the position of defense or even follow Fritjof Capra. Their assimilation, too, was paid with the loss or reinterpretation of the traditional Christian creed.

Then there is a third group of Christians that realized the incompatibility between an evolutionist interpretation of the world and its history and the biblical testimony of creation, fall, flood, incarnation, and eschatological hope of salvation. Their voice had and has little weight within the theological establishment, in spite of the fact that it speaks for a considerable part of the Christian church-members. Speakers of this group are more likely to be found among scientists who realize the true situation in their field of research: physicists, chemists, biologists, geologists, physicians, engineers, economists. If the incompatibility between evolutionary view and basic statements of biblical, Christian belief is realized, this will

naturally result in attempts to find alternatives in ones chosen field of research like e.g. cosmology, biology, geology, and ethnic history.

A theory complex that is held together by an all-interpreting world-view can never be falsified in its role as an all-explaining theory. It is a system of faith used as scientific metaphysics. Karl Popper introduced the term 'metaphysical research program' to describe a theory that is not testable in its basics and can be put to trial only in the shape of falsifiable partial theories. As far as they are concerned, explanatory relevance and even falsifying constellations can be submitted to debate. If, after these hints, a scientific status of the theory of evolution is accepted, the field is open for the discussion of alternatives. After presentation of the criteria of openness by the critical rationalists, there is no need to be shy to name a 'metaphysical research program 'of one's own, to use as an a priori leading idea. Kant granted this possibility to every process of acquisition of knowledge. Such an idea will certainly be rooted in one's personal kind of faith, but that need be no explicit topic in the search for true knowledge of reality. This would be the task of theology or world-view-philosophy.

It may be noted in passing that behind the claim of all-explanatory power and the dogmatic advocacy of theories of evolution one might presume a naturalist or pantheist kind of faith. This problem will here be put aside. As a possible substitute for the criticized world-view bound, naturalist approach, a different leading idea that might serve as basis for a research program will be briefly outlined. A theological foundation for this purpose was given in part III. We call this

approach 'creation theory' or 'creation model'.

Their implications on reality would be in a historical and recent sketch:

(1) The perceivable world was created as a complex one. World aspect I (physical objects and states according to Popper and Eccles) is the substrate of world aspect II (states of consciousness) and III (world of information), but it does not explain or condition them. The physical states of aspect I do not precede those of aspects II or III either<sup>80</sup>.

The world as a totality of occurrence is formed and shaped, even animated. Aspects II and III can neither be reduced to aspect I, nor can they be explained by any mono-causal theory of self-organization operating in the terms of aspect I. We know of no empirical facts that indicate a rise of worlds II or III from I.

Viktor Gutmann demands the incorporation of aspects of morphology and information even into inorganic chemistry<sup>81</sup>. Time and chance lead to devolution, not evolution. If being, in every state of mind and at any time, is formed and shaped by all three world aspects, then perceiving and systematically describing reality means using terms that conform to reality: terms of morphology, causalities of information, hierarchically structured taxonomy and type. Teleological causality is an indispensable category of creation. The loss of plausibility of reductive theories of evolution results from an inability of their terminology to cope with the reality of creation. To grasp the whole it would be necessary to face the above given differentiation of a conjunct emboxed spheric creation.

(2) In the timely begin of all being, which is 'creation'

and not merely 'nature', there is a formed complexity of animated reality. This statement is founded on the above given distinction between the visible and invisible aspects of creation. Creation research does not interfere with the sovereign act of creating. The 'begin' is not a field of research open to the creature. This none researchable 'begin' is not, like in deism, placed at some hour zero, but it is an eternal presence in the individual. Every human being is a creation that cannot be understood in terms of biological reduction. It is, by the way, the same question of 'begin', on which big bang theories founder<sup>82</sup>. In the previous chapter I have tried to give an alternative 'big bang' interpretation as the appearance of 'this aeon'.

'Creation' is passing through states granted by the Creator as parts of His plan of salvation: mega-successions of eco-spaces for the creatures. Thus creation is 'salvation history' as a revealed totality of meaning. This meaning centers in the way of mankind through the granted ecosystem 'creation' in all sketched spheric aspects. I declared this as the 'maximum anthropic principle'. We have here a weak analogon (analogy) at least to the view of the unity of nature as a process of evolution<sup>83</sup>.

Kant's diagnosis of the situation is of lasting validity: the researching human being may see the 'unity of the real' either within distinctions of creation, or else he takes the view of an 'enlightened' and postulates that the 'unity of nature' follows from a process of development of intra-natural causality. From this analogon (analogy) comes the fascination for the evolutionary view. Kant sees clearly that when all is said and done there are only two possible views. Both try to

demonstrate their scientific rationality.

A very consequent demonstration of the latter is given by the astrophysicist Erich Jantsch. In 'The self-organization of the universe' he brings into a nutshell what the majority believes and thinks: "In a world that creates itself on its own the idea of God is not outside, but within all the dynamics of self-organization; on all levels and in all dimensions. God would then not be the creator, but the spirit of universe."<sup>84</sup>

As a consequence, the following leading ideas for a historical theory of creation emerge: experiences made in the present will carry backwards until the diluvium, a global catastrophe that brought an incision in the history of organisms and ecology. Palae-ontology, historic biology, and ethnology are to be fruitfully pursued within the framework of this catastrophe. A devolutionary cosmology concerning "this aeon" corresponds to this leading view. Creation science is a detailed exhaustion of the named criteria of the leading view 'creation as history of salvation'. The methodological approach of this research program differs from that of the naturalist evolution research by an abstention from reducing questions and terms; on the other hand, it allows statements testable with the same stringency and virtually falsifiable.

One test area is the already mentioned similarity research. A different one is that of fossil interpretation. A spheric and for "this aeon" devolutionary cosmology must be on accord with all astrophysical data. The so called 'basic type ore genesis-kind biology' outlines a concept of a poly-phyletic change of organisms within the framework of the theory of catastrophic eco-successions. Creation research does not make use of the naturalist-reductive scheme of explanation,

but a strict palae-ontological verification of the geological constancy of basic types during adaptive radiation of superseding ecosystems must be a focus of research.

In creation oriented biology the three world aspects - physics, mind, and information, to put it simply - are most clearly represented by the terminology and theories of information research. This means: creation biology tries to avoid pseudo-subjects that suggest reductive causalities like "The genes do this or that" or: "Time, chance, and selection manage it". According to K. Lorenz these are the three architects of evolution. Or: "The field of transition from-animal-to-man (Heberer) proves the descent of man."

Because of the structure of the basic a priori assumptions behind creation oriented science it may be called 'mythological'; the metaphysical character of the research program is not denied, especially if we put the differentiated conjunct parameter world in scope. In practical research creation theory - like any other exact science - is to use methods that are in a historical and empirical sense objective and testable. If, say, the palae-ontologist Joachim Scheven submits the carboniferous formations to an alternative, flood-catastrophic interpretation, his results have to be based upon an exact observation of the fossil flora and fauna of the framework of sediment structure.<sup>85</sup>

According to Thomas S. Kuhn, it is possible for a while, to hide away strong counter arguments that carry a falsifying potential under the label of "anomalies that are yet to be solved". But after some time, if such arguments become frequent, they will lead to a paradigmatic revolution. Older scientists will defend the old paradigm determinedly by use of

their prestige. Others will turn to different fields of research in frustration. Younger people who hope to found a career on the new ideas will often become rebels. The present status of the theory of evolution is characterized by its decreasing ability to explain the richness of aspects of reality and by the accumulation of not mastered anomalies.

(3) Creation oriented science as an alternative is unpretentious because of the small number of its advocates and the so far modest results. It also admits the many phenomena not yet satisfactorily interpretable within its approach. From the points of view of science theory or the sociology of knowledge its status is probably not higher than the one theories of evolution can still claim. Working from the naturalist ethos of explanation, one can blame it for carrying the weakness of not even wanting to explain the genesis of the complex world 'mono-causally'. However, this metaphysical aim of explanation is, as was already asserted, not constituent for true science. By its a priori view, creation science establishes a different science ideal, even a different notion on science with categories, which do not reduce the research object from its reach aspects.

From the point of view of science theory one has to accept the stalemate between competing ideals of science. Decisions will be obtained in practical research through successes and failures<sup>86</sup>. The optimism of advocates of creation science can only be that to it 'creation as history of salvation' is a priori true because the Creator has revealed it. This, of course, is a theological option. Naturalist, agnostic, or pantheist options are possible. It is necessary to accept frankly the competition between different leading ideas behind re-

search. Success or failure cannot be hidden.

## **V Final Theological Comments**

The relevance of the evolutionary paradigm to world views is a socio-psychological fact. It is likewise unquestioned that, until the rise of the naturalist enlightenment, it was the Christian, biblical teaching of creation and salvation that characterized the occidental view of history and the world. Was then the imprint of the Jewish-Christian tradition a mere error, revealed by the period of Enlightenment that culminated in the evolutionary paradigm? Can a Christian emancipate himself from this 'mythological misunderstanding' without losing the essential substance of his faith? I conclude: The Enlightenment was the watershed between two ideals of science. Before, biblical revelation about nature and history were accepted into science. After, methodological naturalism made this impossible. This was reinforced by the development of Bible criticism which made the Bible irrelevant for the understanding of nature and history.

The reawakened debate about the evolutionary view has no doubt led to a new rise of the question, what 'enlightenment' really means and what it is that constitutes 'science' in its historic, life-oriented dimension. If 'science' is not subordinated under naturalist desiderata, which, as already mentioned, get wrecked on the reality of history and life, the theological option is allowed to bring its terminology into research language concerning the historic and natural aspects of its message. The separation of 'believing' from 'thinking', 'theology' from 'science', and their allocation to different,

non-touching, areas of reason, is in antagonism to the biblical, Jewish-Christian creed that the God believed in and worshipped, is the Almighty 'Creator of heavens and earth'. I conclude: The inadequacy of methodological naturalism in the explanation of both natural and religious phenomena raises the question of the possibility to re-introduce religious and metaphysical explanations for natural phenomena in science.<sup>87</sup>

An unenlightened, primitively literal understanding of the Bible is in discussion often rejected as unscientific. A modern, critical Bible interpretation would solve the seeming conflict automatically and very nicely get both science and faith into their respective, neatly separated, places, the above mentioned 'no-conflict views'. Why do Christians of every educational degree and profession after three generations of advocacy still resist this intellectually charming solution? The reasons are, above all, the anticipated loss of essence of faith. I conclude: This in turn raises the question of how the Bible should be used in science. This position assumes that the Bible can be used in science. That is, it moves beyond post-Enlightenment Bible criticism which made it irrelevant for the understanding of nature and history.

Using the Bible in science creates the possibility of real conflict. Among these are the following:

a) The center of the Christian faith and testimony is the incarnation of the Creator: Jesus, the historical human being from Bethlehem/Nazareth, born at the turn of times by the coming of Christ defined after Him. In Him the true reality of history and creation is revealed: Jesus shows his authority as Creator in healing and resurrections. By His word of

authority He heals a leper (Marc 1:41ff). The act of healing is a creation of well-structured somatic cells in an organism. From the view of information, a single cell is more 'qualified' than the entire 'astro-physically' researchable cosmos. We are here confronted with a creation of being in a substantial, biological sense with no kind of evolutionary concept behind it. The theological term 'ex nihilo' points to the impossibility of 'explaining' what is created from the divine word by a priori 'conditions of materia' (matter) as basis of a theory of evolution or even understanding it on a naturalist basis. The rejection of this age-old pagan idea in the early Christian creed becomes obvious e.g. in Heb. 11:3. The myth of evolution is as old as mankind. Maintenance of the doctrine of the sovereign Creator who determines the character of materia (matter) on His own is indispensable to the Christian creed. What became a substantial, biological, being by the act of creation, was shaped as a completeness and a functionally structured reality that cannot be grasped by reductionist terms of explanation. This way one can not avoid a conflict of explanatory ideals of science. A criterion to decide whether a phenomenon needs explanation in terms of secondary 'natural' causes or in terms of God's or man's creative activity could lie in the experienced limits of 'natural' explanation power itself. In chapter II I gave a sketch of the lost plausibility of so called 'evolution theories'. It may count for a kind of a posteriori proof of God's creative power, which is in accord to Kant not to demonstrate the pure rational a priori way<sup>88</sup>.

b) The incarnate Creator (Phil. 2:5-11) takes the biblical account of the early history as historically correct, confirms the godlikeness and the original matrimonial worthiness of the

first man-pair (Matth 19:1-12), and the flood judgement and salvation of Noah (Matth 24:37-39) as historical events. Future is placed in analogy to the time before the flood. In his addresses on the 'last days' Jesus Christ makes clear that the future granted by God will find its end in phases of judgement that culminate into one final judgement that terminates the world and after which the risen Lord reveals Himself by the act of a new creation. The teaching of the apostles underlines this messianic view of history and salvation. I conclude: Since God the Son is incarnate in Jesus Christ, His interpretation of Scripture is normative. Since Jesus takes the biblical account of early history as historically correct, we ought to do so as well. Also His prophetic statements give us binding lines for the real future.

c) The definition of history used in both Old and New Testament, the view that history is history of creation, judgement and fulfillment towards a new creation, is on fundamental disaccord with an evolutionary disposition of the world. History of the world is constituted as history of judgement and salvation by the sovereign action of the Triune God. 'Sint-fall' as the signified begin of the 'post-lapsious aeon' and 'sint-flood' as a global convulsion of earthly ecosystems are marks against the imagination of a long aged smoothly past and analogous future scenario.

Apart from His incarnation, the God of the Bible as the One acting haughty (as sovereign) with His creation, is 'transcendent'. This stands in contrast to all adaptations of process theologians from Hegel to Teilhard de Chardin and his followers<sup>89</sup>. The evolutionary view of history is a reversion of the biblical history of salvation. It remains one, even in all the

theist, pan-entheist or pantheist adaptations to evolutionary views. The universal vision of evolution as a 'history of nature' remains a pagan myth, even when - in the naturalist sense - partial rationalizations should succeed under its paradigm of cognition. I conclude: The signified conflict is between pan- and pan-entheistic concepts of God and the transcendent doctrine of the Triune God, who reveals Himself in Scripture and creation. God is not a creature or a being, developing in relation to the evolving world as in process theological view.

d) If the present reality is understood as a cross section through time within the evolutionary paradigm, one has a satisfying explanation for the reality of death and all other nuisances of our life. Death of organisms is the basic engine of evolutionary population dynamics, more than that, as an invention of evolution it is the mechanism of transition to multi-cellular organisms and their further development. The principle of flops is efficient even in market economics. According to the philosophy of evolution of C. Bresch, every individual sacrifices itself for the sake of the optimization of the evolutionary process. Thus even the exertions of evolutionary scientists to optimize the process obtain a deeper ethical meaning.

However, following the testimony of both the Old and the New Testament, death is the wages of sin. St. Paul makes clear that what is meant is not merely a 'spiritual' death, but the burden of every creature of having to suffer and to die. Creation as we perceive it today is carrying a shape of judgement which differs fundamentally from the original ecological status of life<sup>90</sup>. St. Paul asserts that this suffering creation is promised salvation from the present shape of distress toge-

ther with man. The contemporary, enlightened by a naturalist-evolutionary way of thinking will have some difficulties with these theological distinctions. The historically oriented hermeneutics of the biblical tradition shows that the authors of the Bible meant their statements to be true in a historical sense and true in describing creation as what it really is like. Is it possible to bridge the - as Lessing put it - 'nasty ditch of understanding' by 'demythologizing' the original meaning of the text and adapting it to the evolutionary view and still retain its contents?

The unavoidable, adverse balance of biblical substance of faith is the motive for critically questioning the claims of evolutionary theories on science and reality. Within the horizon of the evolutionary philosophy, the structure of death of the present state of creation can no longer be viewed as an expression of judgement and sustaining mercy of God and therefore it will hardly be possible to believe in the hope of a new creation. Hope is reduced to success or failure of the inner-worldly process, maybe incorporating the intellectual product of evolution called 'man'. The identification of the act of creation of a god and 'evolution' is antagonistic to the biblical revelation of God. I conclude: The mentioned conflict is whether or not biological death was characteristic of creation before the Sint-fall.

(e) The last conflict to focus is over whether or not the belief, that the whole, the (e)all is 'creation' depending on a sovereign Creator, could really be the leading idea, the basic paradigm, of a research program.

Christians who realize such contradictions, venture the paradigm of creation in the spheric differentiation as 'hi-

story of salvation (Heilsgeschichte)' as a competitor to the view of the unity of nature as the result of a process of evolution. The paradigm of creation with its historical, ontological and life-oriented terms deals with concrete, experienced, reality.

There is only one history of man, organisms, and conjunct spheric cosmos, and only one truth. 'Truth' cannot be split up into 'theology' and a thereby untouched field of 'evolutionary cosmology and biology'<sup>91</sup>. What remains is the task and art of choosing the conjunct reality grasping categories and life-compatible terms of experience. Only that way may one hope for scientific success. Until doomsday, research will remain a business of competition under even mutually exclusive leading ideas. Christian researchers on 'creation' do not deny their theological options. Therefore, naturalist-pantheist options to explain pure 'nature' should not be hidden either. It is beneficial that the reality of creation itself, until the end of mankind, will resist those stubborn notions and theories. The loss of plausibility of unfit theories and its vanishing in the struggle for over-living is itself a sign of healing. To the honor of Charles Darwin, this statement from 'selection theory' will end the chapter with a common conviction.

*Summarizing symbolon:*

Let me close with a summarizing graph, which should symbolize our reached differentiated creation paradigm. Suitable to the signified three-world differentiation by Popper-Eccles<sup>92</sup> there are sketched three overlapping circles: *Matter cosmos* (world I); *individual cosmos* (world II) and *information cosmos* (world III). These circles represent three autonomous

reality aspects, which can not be reduced to each other. The modern sciences can be grouped and related to these fundamental aspects. The failure to reduce the named autonomous world aspects to a common law and explanation realm is the a posteriori avowal that there is no simple 'nature' but complex 'creation'. In each painted circle are further differentiation noted, which should be diligently minded. See for instance the distinctions in the information cosmos according to Werner Gitt. The three aspect circles surrounding 'meta'-circle should symbolize the *proto cosmos* or the proposed conjunct embossed parameter world. Suitable to this given view, the space-time 'deepness' of created cosmos is not to measure in linear time or length scales, but in a spheric parameter scale. One can say - as in the sketch noted - we ponder with a gradual weakening of heavy space-time mass conditions to a gradual strengthening of the 'Individual Potency'. The 'deeper', the more 'will power' and less hard mass restriction. The practical exploring way should be suitable to the word of Jesus only by faith and prayer (Matt 21:21f) and not the magic one.

The Popper-Eccles circles are clinged to another by arrows, which signify the problem of interaction. The interaction theory of Eccles is a fruitful example to the expected trend of science to interaction theories. The interious (inner) problems of Popper-Eccles worlds, e. g. of the circle of the matter cosmos  $S_0$ , may be one day theoretically exhausted in the trend of a 'supra gravitation theory', which can clear the ubiquitous Planck wall conditions  $PW_0$  (Micro Planck dimensions). Much more exciting are the questions to a broadened reality theory of interacting hyper-quantified  $[g_i, h_i, c_i]$ -creation spheres. The surrounding 'meta'-circle symbolizes in a weak

fashion the fantastic and for fallen man a task non to exhaust. It scopes the call for the redeemed man in the from the bondage of slavery delivered new creation (Rom 8:18-23).

## The Three Aspects of the World of Creation

[ Graphic Symbolon according to Popper-Eccles 'P-E' ]

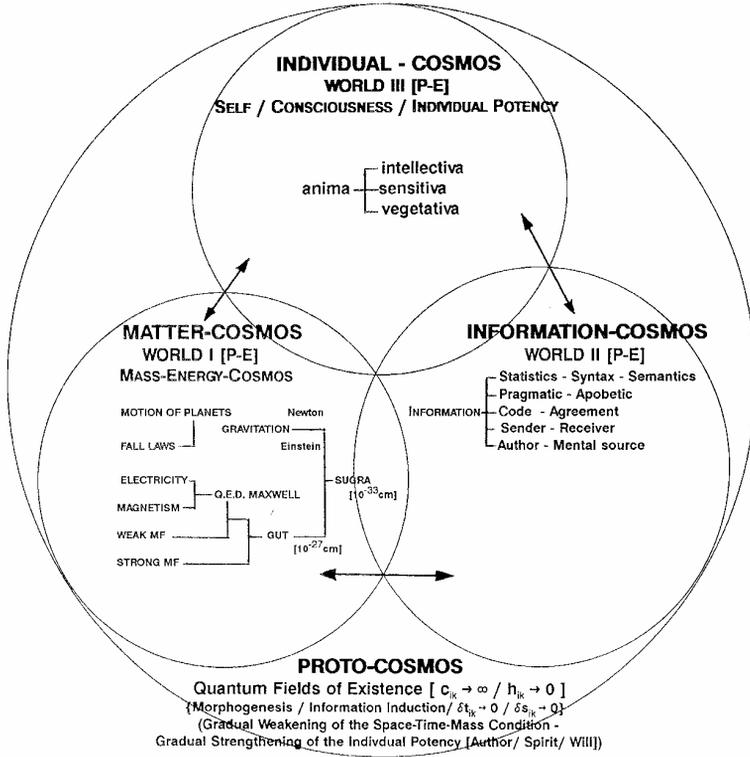


Figure 2

## Notes

1. A shorted German edition is published: *Biblischer Schöpfungsglaube im Kontext heutiger Wissenschaft*. *fridericiana - Zeitschrift der Universität Karlsruhe* H.47/1993, 39-55.

2. This exposition is based on a broader work in German: Horst W. Beck: *Biblische Universalität und Wissenschaft (Biblical Universality and Science)* - Grundriß interdisziplinärer Theologie. Neuhausen-Stuttgart 1987; - cf. further Reinhard Junker: *Leben durch Sterben? - Schöpfung, Heilsgeschichte und Evolution*. Berlin 1993; - Reinhard Junker, Siegfried Scherer: *Entstehung und Geschichte der Lebewesen - Daten und Deutungen für den Biologieunterricht*. Gießen <sup>2</sup>1988.

3. Mario Bunge: *The mind-body problem - A Psychobiological Approach*. Oxford, New York, Toronto, Sydney, Paris, Frankfurt 1980.

4. See page 11.

5. Cf. note 2

6. I have no intention to criticize these ways. I would appreciate similar results concerning the creation and telos of man within the frame of salvation history.

7. Planck wall [PW]: The physicists signify with this metaphor a last barrier, which can not be overwhelmed either by theoretical skills or by experimental endeavour in the framework of our physics. There are minimum dimensions: a Planck time  $t_p = 10^{-43}$  sec and a Planck length  $l_p = 1,32 \cdot 10^{-15}$  m; this barrier separate between our normally experienced world and a suggested 'quantum vacuum' behind. In accord to the Heisenberg uncertainty principle [ $\Delta E \cdot \Delta t \geq \_$ ] in timespans beyond  $t_p$  uncertain maximum energetical effects can 'tunnel' through the Planck wall out of the 'quantum vacuum' behind and influence our macro world. In contrary to the big bang theory, in which it is stipulated that out of this primordial substratum by random chance an embryonic bubble skiped through the PW to constitute the spacetime singularity as the initial phase of our then expanding universe, it is presupposed here, that the PW is ubiquitous as micro barrier of our recent experienced physical macro world  $S_0$  to 'invisible' spheres  $S_i$ . Suitable to the proposed disjunct emboxed paramater world  $[g_i, h_i, c_i]$  we postulate Planck walls  $PW_{i,i+1}$  as barriers between the disjunct spheres. In a strong analogy, the Planck dimensions are valid in the relations to special  $h_i$ .

8. See page 36; - Jean Guitton: *Dieu et la science - vèr le metarealisme*. Paris 1991; - Wolfhart Pannenberg: *Systematische Theologie*, Vol. 2. Göttingen 1991, 99ff.

<sup>9</sup> Black Wholes & Time Warps. Einstein's Outrageous Legacy. New York/London 1993.

<sup>10</sup> For instance in the biblical belief the Triune God mediated through the eternal Son, his incarnation and resurrection, the Holy Spirit inducing the basic energy and information bits to hold and control all creation elements. Further mediating agencies to fulfill God's will are the hierarchic hosts of obeying and fallen angels. These will-centered creatures are 'invisible' for the fallen man and his restricted sensorium.

<sup>11</sup> In accord to biblical revelation obsessed and partly controlled by myriads of servants of God (Hebr. 1:14).

12. A new pladoyer for the hidden parameters is given by Milos Lokajicek, V. Kundrat: Quantum-mechanical evolution of physical systems and Hilbert-space structure (Institute of Physics and Nuclear Centre, Prague). In: PRA-HEP-92/13, July 13, 1992, 2-22.

13. Bernhard Rensch: Das universale Weltbild - Evolution und Naturphilosophie. Frankfurt am Main 1977. - The same: Arguments for panpsychistic identism. In: John B. Cobb and David R.Griffin (edd.): Essays on the Interface of Science and Philosophy. Washington 1977. - Erich Jantsch: Die Selbstorganisation des Universums - Vom Urknall zum menschlichen Geist. München, Wien 1979. - Jacques Monod: Le hasard et la nécessité - Essai sur la philosophie naturelle de la biologie moderne. Paris 1970.

14. Michael Denton: Evolution - A theory in crisis. London 1985

15. Bruno Vollmert: Das Molekül und das Leben. Reinbek bei Hamburg 1985.

16. Klaus Dose: Fifth ISSOL Meeting. International Conference on "The Origin of Life". July 20-26 1986 in Berkeley, CA/USA; aus: Naturwissenschaftliche Rundschau, 40/2, 1987, 64: "Wohl keine Disziplin der Naturforschung zeichnet sich durch eine solche Vielfalt einander widersprechender Ideen, Hypothesen und Theorien aus, wie das gesamte Gebiet der Evolution des Lebens. 1986, also über dreißig Jahre nach dem zunächst verheißungsvollen Beginn der Ära der Simulationsexperimente, kann man zum eigentlichen Mechanismus der Lebensentstehung kaum mehr Fakten angeben als Ernst Haeckel schon vor 120 Jahren. Man muß leider erkennen, daß ein Großteil der Reaktionsprodukte der Simulationsexperimente dem Leben nicht nähersteht als die Inhaltsstoffe des Steinkohlenteers. Eine selbstkritische Bestandsaufnahme des bisher Erreichten und des heute noch Erreichbaren wäre dringend angezeigt gewesen. Jedoch

dieser Schritt wurde in Berkeley nicht gewagt".

17. Phillip E. Johnson: Darwin on Trial. Washington 1991.

18. Ernst Mayr: Toward a New Philosophy of Biology. Cambridge, Massachusetts and London 1988.

19. The 'Hempel/Oppenheim-scheme' of a deterministic causal nexus of nature is yet today a common bias. Critique is done e.g. by Robert Spaemann, Richard Löw: Die Frage Wozu? - Geschichte und Wiederentdeckung des teleologischen Denkens. München, Zürich 1981.

20. Karl R. Popper, John C. Eccles: The Self and Its Brain - An Argument for Interactionism. Heidelberg, Berlin, London, New York 1977ff.

21. Werner Gitt: Information - die dritte Grundgröße neben Materie und Energie. In: Siemens-Zeitschrift 63/4, July, August 1989, 1-7 (english edition: Information: The third Fundamental Quantity. In: Siemens Review 56/6, 1989).

22. Werner Gitt: Information, 7

23. Cf. Horst W. Beck: Biblische Universalität und Wissenschaft, 223ff.

24. Alfred Locker: "Evolution" - Begriff und Theorie unter der Sonde von Sprach- und Wissenschaftskritik. In: The same (ed.): Evolution - kritisch gesehen. Salzburg, München 1983, 11-46. - The same, A. Coulter Jr.: A New Look at the Description and Prescription of Systems. In: Behavioral Science, Vol. 22, 1977, 197-206.

25. Bruno Vollmert: Polykondensation und Evolution. Karlsruhe 1979

26. Alma von Stockhausen: Mythos, Logos, Evolution - Dialektische Verknüpfung von Geist und Materie. Neuhausen-Stuttgart 1980, 295f.

27. Cf. Horst W. Beck: Urknall und Schöpfung (Institute for Interdisciplinary Theology). Baiersbrunn-Röt 1992, II.4.2.: Die Kosmogonische Fragestellung: Kant - Laplace.

28. It can not be intended to give in this sketch an overview over the remarkable history of naturalism. See the special contributions of e. g. J. H. Brooke, F. Suppe, Chr. Kaiser, St. Wykstra.

29. The history of formulation of this common christian confession is very complicated. Cf.: Hans Steubing (ed.): Bekenntnisse der Kirche. Wuppertal 1970, 21ff.

30. Hans Steubing (ed.): Bekenntnisse, 21: Das erweiterte Nicänische Bekenntnis (Nicaeno-Constantinopolitanum 381).
31. In the letter the Hebrews (11:3) we find this view confessed in a classical sharp way: Through faith we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which do appear.
32. Cf. Henning Genz: Symmetrie - Bauplan der Natur. München, Zürich 1987, 384ff.
33. Werner Gitt (ed.): Am Anfang war die Information. Gräfeling, München 1982.
34. A word of Jesus Christ focuses this point (Matth 10:29f): Are not two sparrows sold for a farthing? and none of them shall fall on the ground without your father. But the very hairs of your head are all numbered.
35. Cf. Thomas F. Torrance: Space, Time and Incarnation. London 1969, 56f.
36. Thomas F. Torrance: Space, time and incarnation; - the same: God and Rationality. London 1971; - the same: Ultimate Beliefs and the Scientific Revolution. In: Cross Currents (ed. Joseph Cunneen a.o.), Vol.XXX/2, New York 1980, 129-149.
37. Paul: Letter to the Colossians 1:16.
38. See note 7, page 5.
39. See figure 2 and the explanations on page 62.
40. See Karl R. Popper, John C. Eccles: The self and its brain, part II.
41. See Werner Gitt: Information, 7.
42. See note 9.
43. Cf. G. Gamow: Mr. Tompkins im Wunderland oder Träumereien von c, g und h (original: Mr. Tompkins in Wonderland). Wien 1954.
44. Cf. Bernulf Kanitscheider: Does physical cosmology transcend the limits of naturalistic reasoning? In: Paul Weingartner, Georg J. W. Dorn (edd.): Studies on Mario Bunge's Treatise. Amsterdam, Atlanta 1990, (337-350), 348; and J. B. Hartle, S. W. Hawking: Wave Function of the Universe. In: Phys. Rev. D 28, 1983, 2960-2975.

45. Cf. Horst W. Beck: Christlicher Schöpfungsglaube im Kontext heutiger Wissenschaft. Weilheim-Bierbronn 1993, 88.
46. Cf. H. Arp: Periodicity of quasar redshifts. In: *Astron. Astrophys.* 239, 1990, 33-49; and: Horst W. Beck: Christlicher Schöpfungsglaube, 86.
47. V. S. Troitskii: Physical Constants and Evolution of the Universe. In: *Astrophysics and Space Science*, 139, 1987, 389-411.
48. Stephen W. Hawking: *A brief History of Time - From the Big Bang to Black Holes*. New York 1988.
49. For the universalistic anthropology of Karl Marx see Erich Heintel: *Die beiden Labyrinthe der Philosophie*, Vol. 1, Wien 1968, 863.
50. On the Anthropic Principle see Bernulf Kanitscheider: *Physical Cosmology*, II. *Cosmological Knowledge*, 338f.
51. Augustinus *Confessiones* XI, 17. - Cf. Peter C. Aichelburg (ed.): *Zeit im Wandel der Zeit*. Braunschweig, Wiesbaden 1988, 1, 41-57.
52. Jitse van der Meer: *The Uniformity Principle*. In: *Hierarchy - Towards a Framework for Coherence of Faith and Science* (Pascal Centre Publication. Academic Series No.1), 1989, 25f.
53. Cf. Alma von Stockhausen: *Entwicklung, der letzte Gedanke?* In: *The same*, Remigius Bäumer (edd.): *Verabschiedung oder naturphilosophische Weiterführung der Metaphysik?* Frankfurt am Main 1990, 11-40.
54. A. M. Klaus Müller: *Das unbekannte Land - Konflikt-Fall Natur*. Stuttgart 1987, fig. 1.
55. Cf. Horst W. Beck: *Christlicher Schöpfungsglaube*, 40; - Bernulf Kanitscheider: *Von der mechanistischen Welt zum kreativen Universum - Zu einem neuen philosophischen Verständnis der Natur*. Darmstadt 1993, 149ff.
56. Cf. Carl Friedrich von Weizsäcker: *Zum Weltbild der Physik*, 158-168 (*Naturgesetz und Theodizee*). Stuttgart 1963. - Thomas F. Torrance: *Space, Time and Incarnation*, 66ff. - Alwin Plantinga: *God, Freedom and Evil*. 1974. - Wolfhart Pannenberg: *Systematische Theologie*, Bd. 2. Göttingen 1991, II.2.b: *Kraft, Feld und Geist*, 99ff.
57. Werner Gitt (ed.): *Am Anfang war die Information*. Comment see above, page 5f.

58. Cf. Reinhard Junker: Sündenfall und Existenzweise der Lebewesen - Die Phänomenalität des Bios unter den Gegebenheiten "dieses Äons" (major thesis at the Evangelical Theological Faculty in Leuven/Heverlee). 1989.
59. Cf. Lk 24:13ff; Jn 20:19ff.
60. Thomas F. Torrance: Space, Time and Incarnation, 73ff
61. Cf. Horst W. Beck: Christlicher Schöpfungsglaube, 58, note 93
62. Cf. his: Systematische Theologie, Vol. 2, 15-201, esp. 96ff.
63. see Werner Gitt: Information, 7.
64. Cf. Horst W. Beck: Urknall und Schöpfung, 65.
65. Friedman-Robertson-Walker-worlds. Cf. Horst W. Beck: Urknall und Schöpfung, 57ff.
66. For the path integral method see Bernulf Kanitscheider: Physical Cosmology, 348.
67. The full title of the book is: Alexander and Edith Tollmann: Und die Sintflut gab es doch - Vom Mythos zur historischen Wahrheit. Munich 1993. - We must renounce of details here.
68. On Jewish mysticism cf. James M. Houston: Reflections on Mysticism - How Valid is Evangelical Anti-Mysticism? In: Markus Bockmühl, Helmut Burckhardt (edd.): Gott lieben und seine Gebote halten - Loving God and Keeping His Commandments. In memoriam Klaus Bockmühl. Gießen, Basel 1991, 163-181.
69. The German theologian Karl Heim, by Albert Einstein highly estimated as a correct theological interpreter of his relativity theories, marked our recent time experience as a basic character of the fallen status of our bodily circumstances. Cf. e. g. his: Christian Faith and Natural Science (Original: Der christliche Gottesglaube und die Naturwissenschaft; translated by Neville H. Smith). London 1953.
70. Cf. Horst W. Beck: Biblische Universalität und Wissenschaft, 361-365.
71. See the figure of A. M. Klaus Müller on page 29.
72. Paul Davies: Superforce. New York 1986
73. SRT = Special relativity theory; GRT = General relativity theory; EQD =

Electricity quantum dynamics; GQD = Gravity quantum dynamics.

74. For the Arp-law of periodicity cf. page 24.

75. The theoretical physicists, looking for unified theories for all powers and mutual effects, come to question more dimensions. They tangle with s.c. shadow universes, which penetrate our measurable world. They also discuss at least theoretically effect bridges between material systems, which overwhelm partly the normal h,c,g conditions. It may be, that they are developing the needed mathematical skills for the suggested disjunct emboxed  $[g_0, h_0, c_0]$  world. See e.g. Paul Davies: Superforce, "In how many dimensions do we live?".

76. Cf. Paul Davies: Superforce, "The living vacuum".

77. Thomas S. Kuhn: The Structure of Scientific Revolutions. Chicago 1962ff.

78. Hermann Schneider: Nobel-Preisträger warnen vor der Schöpfungslehre. In: factum 11/12, Berneck (Switzerland) 1986, 43-48.

79. For the Problem of "No-Conflict-Views" see for instance Alwin Plantinga: When Faith and Reason Clash - Evolution and the Bible. The Pascal Centre Notebook. Vol. 2, Spec. Iss. 1991, 2.

80. see figure 2, p. 62.

81. Viktor Gutmann: Strukturdynamik und Energieübertragung. In: Werner Gitt (ed.): Am Anfang war die Information, 63-78. - The same: The Donor-Acceptor Approach to Molecular Interactions. New York 1978.

82. Cf. Stephen W. Hawking: A Brief History of Time, and Horst W. Beck: Urknall und Schöpfung.

83. Cf. Karl Löwith: Meaning in History - The Theological Implications of the Philosophy of History. Chicago 1949.

84. Erich Jantsch: Selbstorganisation, 47.

85. It is striking that the establishment has so far failed to produce falsifying counterarguments against these theses although they have been published, advocated in university lectures, and displayed in public for years. - Cf. Joachim Scheven: Karbonstudien - Neues Licht auf das Alter der Erde. Neuhausen-Stuttgart 1986, and his "Erdgeschichtliche Sammlung" in Hagen-Hohenlimburg (Germany).

86. In strongly defined partial aspects of research the principle of successes and failures may be fruitful. But it does not work concerning the holistic basic questions on creation reality.

87. The recently reached stage in the 'theory of science' shows, that all attempts to demonstrate a clear demarcation of 'science' and 'non-science' failed. This concludes in the so called open 'scientific pragmatism' as the ripe fruit of critical rationalism. Cf. Helmut F. Spinner: *Ist der kritische Rationalismus am Ende?* Weinheim-Basel 1982.

88. In this sense a 'natural theology' suitable to the Apostel Paul's message in Rom 1:18ff seems possible.

89. I have to restrict myself to mark a general line. It is not the place here to ponder worthily with the important issues of contemporary 'Process Theology'.

90. Cf. Reinhard Junker: *Sündenfall und Existenzweise der Lebewesen. - The same: Leben durch Sterben?*

91. See for this notion of problems e.g. Alwin Plantinga: *When Faith and Reason Clash*; and Jitse van der Meer: *The uniformity principle*.

92. See page 9f.