Course 10.10. Philosophy of man.

Contents.

1. Man as a biological being.

First, man is briefly sketched as a biological being (02/2). That same human being is then sketched as an animated being.-- Thus we sketch the two sides of man's philosophy of life. (02)

After L. Pasteur it seemed that the gap or qualitative leap from inorganic to organic being was emphasized. Pasteur had both experimental and more theoretical arguments in the interest of the jump.

Recent molecular biology, however, does not seem to exclude a newly conceived "generatio spontanea" (explantation, synthesis (= production) of amino acids (protein components)). So that a gradual transition can be assumed.

Biology and behavior. -- The acquired or the inherited?

1. 1970 -- The human sciences of that time (psych., sociol.) held that the acquired was a narrow basis of heredity. That inheritance came from education, living conditions, freedom.

2. 1990+.-- Biology, especially genetics (Mendel) made spectacular progress and founded Behavioral Genetics. -Our behavior (normal and abnormal) is "written" in the genome,-- except for a minimal part 'acquired'.

Appl. model.-- Brain scientists have more than once concluded that there are brain changes that are genetically determined. For example: protein/ Alzheimer's disease. Neuroscience has made spectacular advances in brain and behavior. Neurotransmitters.-- Yet there are scholars who are very cautious: a simple link "heredity/crime" is very hypothetical.

D. Cohen: geometric model (differential) "congenital/ acquired". Cohen, a specialist in the human genome, is extremely cautious: every type of behavior (character) is a synthesis of congenital and acquired traits. I.e.: completely genetically

determined (e.g. some homosexuals) / the majority: partially genetic / partially acquired (e.g. some homosexuals) / perhaps completely acquired by environment. - To be rigorously scientific, one must be able to measure character traits. Which is extremely difficult. Diabetes: yes; homosexuality: no! Cohen calculates with extremely small percentages amidst the large majority that is a mixture "congenital/acquired". Comparison with diseases, psychological or otherwise.

The ecological risk.-- To make us feel the utmost importance of philosophical biology, before we start the chapter on it, we read what follows.

Bibl. sample : H.Ponchelet, *Le risque écologique*, (Ecological risk), in: Le Point 06.12.1997, 50. The article is about transgenic plants.

1. The French government recently allowed the cultivation of transgenic maize (according to Novartis' formula). The genome (i.e. the set of genes controlling all biological traits; -- contraction of 'gene' and 'chromosome') of the maize type in question now contains an additional gene (i.e. hereditary trait, contained in the chromosomes located in the cell nucleus) borrowed from a bacterium. This bacterium is the natural enemy of a kind of light moth (Fr.: pyrale), the insect harmful to maize par excellence.

Note -- Hence the term 'transgenic'. -- Four other genetically improved maize varieties are offered (and may be approved) by seed companies.

2. On the other hand, no transgenic beet or oilseed rape are allowed.

Two measures, two weights.-- The sufficient reason is the biological risk that the Commission du Génie Biomoléculaire (CGB) has to assess.

(1) The CGB - biologists have to investigate whether the genetically modified organism (GMO) - maize,-- beet, rapeseed - contains risks for the consumer,

(2) They have to investigate whether the transgenic plants - once they are cultivated on a large scale in arable farming - pose any dangers to the ecosystem.-- We will now discuss this in more detail.

1. ***(Un)harmful to humans***.-- The risk to consumers does not depend on the foreign gene that is inserted into an organism to add a new characteristic. The gene is a simple piece of DNA (Deoxyribonucleic Acid; Fr.: ADN), i.e. the main component of the chromosomes in the cell nucleus). It is destroyed by digestion.

The risk lies in the new protein that the transgenic organism will henceforth produce.

Model.-- Everyone knows that - disliking aside - one can eat snake meat without any problem, but every cell contains the gene that controls the production of venom. On the other hand, ingesting the venom of a snake is dangerous.

Original.-- Similarly with the all that is GMO - e.g. maize - it must be proven that the ears of maize, for example, do not contain any molecules that are harmful to health.-- This applies to the seeds of Novartis. This applies to Novartis' seeds, as well as several other maize and soya varieties cultivated in the USA, which were declared fit for consumption by animals and humans in 1996.

2. ***(In)detrimental to nature.--*** What is a problem, however, is the ecological risk: there is a possibility that a transgenic organism could pass on its gene(s) by accident by implanting it in a wild plant (a weed).

(1) For maize, this risk was declared tolerable, indeed non-existent.

(2) For beet and rapeseed, large-scale breeding was rejected.

The sufficient reason. Beetroot and oilseed rape, two tame plants, have relatives in nature that are able to make certain genes their own. These include genes that make them resistant to herbicides. If these related (wild) plants become resistant to herbicides, such weeds would pose terrible problems for arable farming.

Note.-- (un)palatability.—The author pauses for a moment to consider possible aversion.-- The transgenic plants - in this respect they resemble the snake meat mentioned above - present the consumer with the problem of aversion.

Although such an attitude of aversion shocks professional rationality, it is a reality that cannot be ignored.

Since the consumer is 'king', he/she is entitled to understandable information. For example, labels can indicate whether the product they are buying contains GMO (transgenic product) or not.

This is a technically complex form of information. In France, it has been compulsory since November 1997, but the modalities have not yet been determined: Europe has yet to come to an agreement.

Note -- The foregoing finished article shows that the special ontology of biology is more than a mere pastime of strangers to reality. The problems we are now tackling are part of our daily lives.

Behavioral Biology.- Kotrschal is a behavioral biologist and a firm believer that behavior is fundamentally hereditary to one degree or another.

The difference with Cohen's caution is striking.-- Kotrschal distinguishes between congenital (direct influence of the genes) and hereditary (hereditary pattern never without environment).-- He refers to the twin research and breeding experiments in animals.

a. Objective thinking.-- To discuss without emotions or to act completely objectively is impossible, because every information that touches the more rational cortex of the cerebrum, also passes through the emotional parts of the forebrain (genealogical parent).-- This also applies to scientific thinking.

Note.-- Does this also apply to Kotrschal 's thinking?

b. *Moral action*.-- Evolutionary structures are not automatically good (as e.g. K. Lorenz claimed).

Consequence: the contradiction "noble savage / degraded civilized" does not hold.-- More than that: evolution does not follow a predetermined direction (blind, accidental, reactive).

Consequence: violence, infanticide are evolutionarily "natural" but not yet a moral act. No morals can be derived from scientific facts of evolution.

The principle of 'self-interest'. -- Kotrschal's "individual selection" argues that the problems of humanity which are ultimately generated by evolutionary self-interest are systemic (inevitable within evolution).

Egoism/ altruism.-- The gene combinations of the altruists weaken from the population. Yet animals and humans help each other on occasion. Either this "altruism" is mutual or it relies on genetic affinity to some extent (insect societies,--aid systems in fish, birds, mammals).

Rivalry.-- Members of one's own group are the most dangerous contenders and one then ... kills them (children, rivals).

Darwinism. -- It took man as the crown of creation from his pedestal. Genetics - the term 'gene' - thus acquires a pejorative connotation in the eyes of some of its contemporaries.-- Of course, Manchesterianism and especially eugenism (think of the Nazis) are largely to blame.

Note . - Kotrschal's tone is self-confident where Cohen is very cautious.

2. Vlad. Soloviev: evolution biblically interpreted.

We dwell quite extensively on one of the greatest Russian thinkers who still lived from the Greek-Eastern patristics (church fathers). He was thoroughly familiar with Western (rationalist) thinking but was only briefly swayed by it. In that sense he is post-modern.

The five realms -- Mineral, vegetable, animal, human and God realms. And this as an evolution towards perfection such that the later stages contain the earlier ones on a higher plane.

Note.-- This does not prevent the God realm, along the way, from having blind, accidental and purely reactive processes. However, the basic direction is there from the beginning.

Note.-- Christianity, or rather Christ, is interpreted cosmically, as was already the case in Eastern Greek Christianity. And realistically, -- not nominalistically: the term 'Christ' e.g. is not a (mere) word-sound or name (nominalism) but a term which designates reality (realism) within a tradition which knows of that term the experienced reality. Where nominalism presents Christ as a yet to be experienced 'reality' (however hypothetical) with as a consequence ambiguity e.g.

Higher / lower forms of life. -

Christian Platonism.-- The cosmos is the creation of God (Yahweh, Holy Trinity). It is the realization of God's ideas.-- Thus, a tangible mineral is a finite, perhaps poor realization of the idea 'mineral' which refers to all actual and possible minerals (as a summary (collection) and ideal of them).

Mineral, plant, animal man, man living out of God's spirit (Christ) are such ideas that show themselves within the cosmos.

From lower to higher.-- Evolution - which is a fact - shows an order.-- The higher (e.g. plant versus stone) does not simply arise from the lower ("Post hoc; ergo propter hoc"). As an idea, e.g. the plant existed - like the idea 'stone' - before the stone and even before the first plant in the cosmos. However, inorganic nature - stone - is the material basis for the evolutionary appearance of life in the form of the plant.

If inorganic nature is only inorganic, then no organism can be produced from it without an external factor. From a I can draw a but not a + b.

In other words, if the lower is only the lower, then the higher alone cannot 'arise' from it.

The five realms.- 17 / 29.-- We will now go over what Soloviev says about the five gauges or levels of "perfection" or rather reality.

To sum up:
1. stone: (material) existence;
2. plant: (material) existence but living and dying;
3. animal: (material) existence but living-and-dying and conscious;
4. human being: (material and immaterial) existence but living - and dying and conscious and understanding the meaning of existence from ideas, which is mainly expressed in language;
5. Biblical man: (material and immaterial) existence but living-and-dying, conscious, thinking in language, recreated by divine "spirit" (life force) in Christ. Soloviev uses for this fifth level the term "Son of God/ Daughter of God" with which the Bible indicates a higher being that testifies of God's life force in a striking degree. The same is indicated by "child of God".

Method. -- **a. *Phenomenology***.-- Soloviev presents what is as good as directly experiential (given, evident), -- yet before any further scientific investigation. In this sense he adheres to common sense.

b. *Scientific data.*-- However, he exceeds what is directly given (= phenomenology) for common sense by presenting the research results of e.g. biology on evolution as a fact. In other words: he accepts indirect data.

c. *How the Bible situates it.-* Both results - phenomenological and scientific - are situated within the axiology of the Bible. He interprets this axiomatics realistically: these axioms are tested by a consistent Christian life and found to be real while living.

In contrast to the nominalistic interpretations of the basic Biblical concepts (axioms). These view such things "from without," without testing them in practical life.

1.-- *Stone.* By 'stone' he means the whole of inorganic nature ("the mineral kingdom" as he says).

Note.-- Note how here and hereafter Soloviev proves what he says, by model and counter-model.

Note.-- Basically, by 'stone' he means the petrified, not yet living existence. The stone neither lives nor dies in contrast (= counter model) to the plant.

Note -- In the religions, 'life' and 'inspiration' are attributed to mineral substances, but then in such a way that that life and inspiration comes from outside the mineral world.

2.-- *Plant.* - -- The plant dies. After it has lived.-- Thus the growing tree and firewood.-- Inorganic nature is the basis of the plant, even though that mineral nature is not alive.

3.-- *Animal.* - -- The plant is alive. The animal is conscious. i.e. is reciprocal action "psychic life/environment". -- The opposition pair "waking consciousness/sleep state" shows it. The animal has associative consciousness: it lives consciously in the now but is aware of past things and of future things. The brain, appearing in the evolution, plays a role.

4.-- *Man.*- Man does not differ from animals in that he has consciousness, but in that he has reason, the power of universal concepts. This reason manifests itself in the word, the language. -- This betrays the fact that man possesses the all-embracing truth (i.e., being as knowable) in his ontological ability.

Ook al is er duidelijk verschil - in tijd en ruimte - tussen de volkeren en hun culturen.-- The animal lives in a much more limited environment than man, whose environment is the totality of reality. -- Thus man grasps the meaning (destiny) of that totality and his (conscientious) role in it.

Animism.-- 'Anima' is 'soul'.-- The animal has a soul (inner world in contact with environment in a conscious way). Man also has a soul: what he knows through introspection, i.e. living through his own inner soul life. -- The knowledge of the inanimate beings differs profoundly from our introspective knowledge. This alone shows the profound difference between animate and inanimate beings.

***No Cartesian dualism* --** The nature of matter and the nature of spirit (reason, the faculty of language) are intimately connected and constantly interacting.

5. -- *Biblical man*. -- Soloviev extensively situates the fifth level of "perfection" (understand: reality): the kingdom of God. Soloviev is clear: the kingdom of God differs from the previous stages by a perfect order of conscience. One sees it: the Decalogue dominates Old and New Testament.

The immediate preparations. Christ, the new man, did not fall from the sky. Late antiquity shows omens.

a. ***Intellectually***.-- Humanity showed Old Testament prophets and Greek-Hellenistic thinkers. In which Soloviëv Philon follows the Jew.

b. ***Political-cultural***.-- The Roman empire became the great biotope. Around the Mediterranean Sea.-- Cultural.

1. Aesthetically and philosophically, the Greeks arrive at the divine man. Did not Aristotle say that the Greeks, when they see something beautiful, call it 'divine'? The kalokagathia was deification.

2. The imperium romanum, with its pax romana, became the framework in which that cultural ideal found its cradle. Deification, but then Biblically, as participation in God's nature, is the basic axiom of the (Eastern Greek) church fathers. This was set against the deified man in the person of the Roman emperor.

Note -- 2 Pet. 1:4 expresses the deification idea.

Jesus: Ideal and power.- .-- Jesus, as God-man, realizes that to which the whole of evolution is directed, from God's idea (he is in this sense "evolutionary ideal"!). It is precisely because of this that he displays "higher power" (he is capable of what the previous stages of evolution were not capable of).

Jesus as historical man.- The Roman emperor proved to be a failure. At that historical moment, God the Son enters into creation, and even earthly creation, as the original to which the model, the emperor, refers.

Note -- Soloviev, as a Christian realist thinker, pauses for a moment on historicity, the fact that Jesus as a fact is verifiable by historians. To invent Christ, as he is in his perfect humanity, seems to Soloviev impossible. More than that: the whole evolution of the world seems to him to be directed towards such a figure.

Explanation.- **a**. From animal to man.-- To infer man from the animal level is illogical, given the qualitative leap.

b. From natural (pre-biblical, pre-Christian) man to Biblical (living out of God's spirit (life force)) man.

To deduce Christ from actual man with his failures is illogical, given the qualitative leap.

Such is the "big story" that Soloviev tells about the theory of evolution.

3. Philosophy of life: qualitative leap or gradual transition?

Do we read Cl. Allègre, *Qu' est-ce que la vie?,* (What is life?), in: Le Point 07.10.1995, 47. The author outlines the paradox of biology.

1.-- *Qualitative leap.--* For centuries it was thought that out of the inanimate the living "arose" ("generatio spontanea").

L. Pasteur (1822/1895; chemist and biologist) refuted the old axiom by means of a rigorous scientific method - which is still exemplary. He immediately founded microbiology. There was no gradual transition from lifeless to living. Inorganic nature and organic nature were separated by a boundary.

To preface: aren't lichenes, lichens, in a manner of speaking, "stones"? Lichens also grow on bare rocks and stones. Don't living creatures excrete minerals themselves to form their shells or skeletons?

By the way, this only shows that 'inanimate' processes go together with life.

Pasteur added a theoretical argument to his experimental results.

a. -- *The physical world* causes molecular symmetries again and again.

b.-- *The biological world* exhibits dissymmetry's in many of its molecules. If you will: the models (reflections) do not coincide with the originals. The mirror image of the original is different. This is what was established at the beginning of the XXth century. There is a gap between inanimate and animate.

2. *Gradual transition.* -- Recent molecular biology has weakened the theory of qualitative leap.

Karl Mullis processed in vitro (vitro culture is the artificial cultivation of living tissues outside the body; one also says 'explantation') the repetition of the DNA molecule. DNA is deoxyribonucleic acid, a basic substance of the living. This is thanks to an enzyme. Which proves that chemical processes to some extent control living things.

Stanley Miller, by means of electrical discharges, synthesized amino acids, elements of the proteins. Something that "life" accomplished some four billion years ago. "We still don't know how" (according to Allegre).

Behold the paradox of the evolving sciences of life.

4. Towards a definition of 'life'.

Bibl. sample.: Fr. Rienks, *Biologie: wat is dat*?, (Biology: what is it?), in: Natuur en Techniek 66 (1998): 2 (Feb.), 48/50. The text summarizes E. Mayr, *This is Biology (The Science of the Living World).* Mayr is perhaps the world's greatest living evolutionary biologist. Professor of zoology at Harvard University.

The book thematises the commonality of e.g. embryology, neuroanatomy and evolutionary biology in such a way that it is distinguishable from the physical or natural sciences. The titles are what, how and why questions.

The first one is "What is biology?". The answer comprises almost three hundred pages. This indicates that the matter is not simple.

A second main question is of course: "what is life?". The answer is given briefly.
1. Primitives thought that a mountain and a tree also possessed a spirit.
2. Ancient Greeks spoke of 'the breath of life' (*note*: Psuchè).
3. Christians, following the Bible, speak of 'soul'.

The modern debate. -- Galileo held that the book of nature is written in triangles, circles and other geometric figures. Descartes asserted that all organisms - except man as (self)consciousness - were 'machines', mechanically explainable phenomena.-- Thus arose physicalism or mechanicism as an 'explanation' of the living.

In other words: modern physics becomes the all-embracing subject. On the other hand, thinkers took a stand who did not simply write off terms such as "spirit", "breath of life" or "soul". This gave rise to modern vitalism (note: whether or not distinguishable from animism). According to Mayr, vitalism states that physics, e.g. in the form of chemistry, does not explain life as a whole.

It puts life force first. Thus, the oldest tradition concerning life remains. Only around 1920, according to Mayr, organicism emerges that fuses both physicalism and vitalism. People like Darwin (evolution) and Mendel (genetics) put their stamp on it. Organisation' -- more than energy and movement (physicalism) and different from life force (vitalism) is defining for life.

By the way, organicism emerged in its romantic form in the first part of the 19th century.

There is more than gene involved.

We are experiencing, at least in some circles strongly influenced by the developments in recent biology, a craze for genetics. People want to 'explain' 'everything' through genes.

Bibl. sample : H. Ponchelet, *Plantes (Et pourtant elles s' adaptent),* (Plants (and yet they adapt),), in: Le Point 14.02.1998, 35.

In the laboratory for cell physiology, signals and regulation at the CNRS (Centre Nationale de Recherche Scientifique) - University of Rouen, Marie-Claire Verdus, Michel Tellier and Camille Ripoll are working on the cultivation of flax seedlings.

In doing so, they uncovered a mechanism that only plants exhibit. In particular: plants develop according to their genome, i.e. the collection of chromosomes of their cells.

By the way: in the cell nucleus of an organism there is something that contains the genetic or hereditary information (understand: structure) and consists of proteins and DNA (deoxyribonucleic acid), namely the chromosome.

But the development of plants depends even more on the signals they receive from their environment.

For example, seed germinating from flax underwent propagation (depotting) in such a way that they got into a stress situation where they were immediately deprived of calcium. Answer of the seed germs: they developed more meristem (a group of cells necessary for growth) than the test seed germs that were only deprived of calcium.

Conclusion of the search team of Rouen.-- Flax adapts to its environment with a delayed stress. Flax stores initial information until a new stimulus allows it to express itself.-- This adaptability of plants is such that specimens of the same plant species growing in very different environments could be classified into different subspecies. This is because botanists were misled by their appearance.

Ponchelet's conclusion: "The gene is not the absolute ruler of the world of life forms".

Note -- If plants are already capable of this, what prevents us from supposing, on the basis of analogical induction and a-fortiori reasoning, that animals and human beings are also capable of it?

Biology and behavior.

We note, first of all, what L. Ferry, *Science (La génétique contre les psy),* (Science (Genetics versus psychology)), in: Le point 21.10.1995, 104/114, says about the inverted ratio "hereditary/acquired" in the last decades. In the human sciences. And thus in philosophical anthropology.

1. -- *The seventies.* -- Twenty years ago, to argue that human behavior (psychological, sociological, -culturological) - including some mental disorders - was biologically caused, was to be accused of being 'fascist' (think of the relevant practices under the Nazi regime or in Sweden or Switzerland) or 'repulsive'.

For at that time psychology (especially psychoanalysis) and sociology attributed psychological and social behavior almost entirely to the acquired.

In particular: in every single person there is a rather limited and, seen as a whole, rather identical substratum (foundation) that is innate.

On this basis, which is present in all individuals, people built up an individual diversity of characteristics: due to the environment. This is the different life situations (history) such as type of education, social environment (class, for example). Even human freedom shapes the pattern of behavior.

2. *The nineties.*-- The change to a counter model is striking.-- Biology, in particular: genetics, advanced with giant strides.

1866.-- The Moravian monk Gregori Mendel discovers the laws of heredity in the biological field through experiments with plants (peas).

Recently, genetics was able to map the structure of the human genome in a major program led by Jean Dausset and Daniel Cohen".

In passing: 'genome' is the totality of genes in the chromosome of an individual; 'gene' is the carrier of the hereditary properties within the cell nucleus.

Behavioral genetics. - Today, most biologists, especially behavioral geneticists, argue that the acquired is minimal and the congenital (or better: inherited) is radically predominant. In the genome "are written":

a. intelligence,

b. abnormalities such as homosexuality and aggression, -- alcoholism, -- depression and schizophrenia. The behavioral lot would thus be deterministically determined, -- at least for, a (large?) part.

An applicative model.-- Now we immediately read H. Steinbusch (biochemist) / J. Jolles (neuro- and psychobiologist), joint brain scientists, in an article, *Hersenen en gedrag* (*Nog steeds meer vrager dan antwoorden*), (Brain and behavior (Still more question than answer)), in: Natuur en Techniek 64 (1996): 9 (Sept.), 34/40. It is striking that these specialists speak with much more nuance than many behavioral biologists. We are listening.

1. -- *Dyslexic, depressive or demented*, at least ten percent of the population suffers from some kind of brain disorder.

With the ageing of the population, their share will increase. Especially the number of patients with Parkinson's or Alzheimer's disease will increase in the coming decades.

2.-- *Crime is a complex problem*,-- moreover, threatening. -- Maybe there is a gene that incites to criminal behavior. (...). The hypothesis that there is a 'simple' (note: do not understand: complicated) connection between hereditary factors and a criminal disposition is highly 'speculative' (note: hypothetical).-- Yet this theory is even echoed here and there in scientific publications.

The facts.-- This is not so strange - proponents continue - because more than once in recent years, researchers have come across changes in the brain that are genetically determined.

They have found, for example, a protein that occurs more often in Alzheimer's patients. This protein can be detected even before birth.

Neuroscience.-- In the last decade, neuroscience - the field of brain and behavior - has made more progress than in all the centuries before.

1.-- Chemical neuroanatomy maps the pathways of signals within the brain to the transfer substances - neurotransmitters - involved.

Note: This is the neurochemical part of the information processes in humans.

2.-- Neurochemists and pharmacologists study the way in which these transmitters are able to transfer a stimulus from one cell to another. They also dissect the receptors involved in this process.

3.-- Neuropharmacologists attempt to stimulate or inhibit these receptors with drugs in order to control communication within the brain.

Biology. Yes. But also humanities and humanities.
Some biologists simplify the data. Thus on bisexuality (homosexuality, lesbianism).

Bibl. sample : P. Br., *Qu'est-ce que la bisexualité?*, (What is bisexuality), in: Journ.d. Gen / Gaz.d. Lausanne 23.01.98, 15. The author notes that, in medical circles, the definition of the term 'bisexuality' (ambivalence) is controversial.

A. ***Udo Rauchfleisch.*---**The author of a book on homosexuals, lesbians,-- bisexual.

a. To define 'bisexuality' as a general concept is impracticable, for it is an aspect of gendered experience comparable to heterosexuality and homosexuality.

b. He refuses to establish a classification of types (typology). He refuses to use the terms in the singular, because the plural better reflects the diversity of behavior.

Axiom: sexual desire is completely symmetrical (open to both types). He does not ignore the fact that in some people the desire for the opposite or same sex predominates - Epistemologically this is nominalism or constructivism.

B. ***Willy Pasini*** -- Italian sexologist. He argues that bisexuality is perfectly definable! He even establishes a four-part typology,

1. ***Conformist bisexuality*** . - Most bisexuals belong to this type: they do not admit to being homosexual and they adopt heterosexual behavior as a veneer. For - says Pasini - there is no such thing as bisexuality which springs from an equal desire for men and women.

2. ***Groundbreaking Bisexuality*** - Our culture exudes boundary-breaking: people want to try everything! Including homosexuality. Add to that the "war" of the sexes that is now raging. It is not the desired object that provokes this type, but the urge to participate.

3. ***Narcissistic bisexuality*** -- This does not originate from the object but from the urge within the bisexual man or woman himself.

4. ***Situational or socially imposed bisexuality.--*** Special situations provoke this type. E.g. men in the army.

Conclusion -- What bisexuality are biologists talking about when they maintain that bisexuality is genetic? As long as there is no scientifically solid definition of bisexuality, it will remain undecided.

5. *The ordinary - vulgar - press is unreliable.*

Bibl. sample : A. Vos, *Paresseux, malchanceux, gourmands, cessez d'accuser vos gènes*-, (Lazy, unlucky, greedy, stop blaming your genes), in: Journal de Genève/Gazette de Laus. 06.02.1998, 17.-- We give the essential.

A. *The press releases.*

1994.-- A book, *The Bell Curve* (written by two Americans), claims that the IQ is hereditary and that that of the Negro-Africans is inferior.

1995.-- The so-called discovery of the gene of homosexuality.

Note -- D. Duboule (Université de Genève), zoologist: "The original article talks about the role of pheromones in the communication between flies (Drosophila melanogaster) that were genetically modified. A small sentence at the end says something about homosexuality.

The press: "A gene has been discovered that makes male drosophilae homosexual".

1995. -- The press: "A long sequence of the DNA chromosome 11 - is more likely to be found in curious people".

1997.-- The Italian TV: "Researchers have found a gene of misfortune".

Result.-- The general public is misinformed.

B. *Scientists.*

Al. Malafosse (Clinique psychiatrique Belle-Idée), who specializes in genetic research on schizophrenia and manic-depressive psychosis,--research recently carried out by only about twenty groups on the globe, says that numerous studies--in twins--provide strong arguments in favor of an important role of genes in schizophrenia or manic-depression.

Malafosse.

1. The quasi-totality of genetic traits -- limb shape or susceptibility to mental illness, for example -- is programmed not by a single gene but by a large number of genes -- sometimes thousands".

2. As for behavior, it is obvious that if genes play a role, they explain far from everything: the social environment, upbringing, individual history play a primary role.

Note - Dr Duboule. - Racists and eugenicists (race improvers) - especially when it comes to IQ - use the - false or real - information that comes into circulation.

Conclusion.- This is the opinion of two experts on the subject. It differs fundamentally from some other 'experts' that appear elsewhere in the course.

6. ***A specialist in behavioral biology speaks: D. Cohen.***

Sophie Coignard, Interview.-- Daniel Cohen "*Ne diabolisez pas la science*", (Don't demonise scienc), in: Le Point 21.10.1995, 116/120.-- We deal with what interests us here and now.

The structure of the human genome

1992.-- With Dausset, Cohen captures the representation of the structure of 50% of the human genome (= gene system).

The unrolling, analyzing, of the ribbon.

Model - according to Cohen - a ribbon can be wool. The gene of e.g. a disease is somewhere on a point of that ribbon but one doesn't know where.

Note. - In the language of platonic epistemology one would say: the gene is situated somewhere as a lemma.

To begin with, one must unwind the ribbon from the ball of wool. -- We have 'unrolled' the ADN (deoxyribonucleic acid). Cut it into pieces. A phenomenal labor: if the data were printed in our ordinators, they would contain paper as high as the Eiffel Tower!

The big step forward.-- Before our structural analysis, one could hardly locate a gene. Before our structural analysis, one could hardly locate a gene. Now, one knows at least in which bands it can be found.

After that, a single day is necessary for the ordinator to select the fragments of the genome that correspond to the strip in question.-- Previously, this took three to four years.-- To analyze the fragments, another year is needed.

In conclusion, instead of a total of ten years as it took for the Huntington's disease gene (hereditary neurological disease with abnormal motor skills, mental disorders, intellectual decline as a syndrome (system of symptoms)) - the first gene to be isolated - it would now take eighteen months to identify the genes. Mathematically speaking: research progress from 10 to 1.5!

We will preface this excessively short report with an explanation of what follows in the interview. Cohen speaks from his scientific work. We will see that this man, - although a convinced behavioral geneticist- speaks very cautiously in contrast to some colleagues.

A geometric model "congenital/acquired". -- The results of genetic research into the "congenital/acquired" ratio are explained by Cohen using a model.

Given: the area of a rectangle.

Asked: the importance of the length or the width of the sides. Everyone recognizes that topologically, i.e. if the area is unchanged, it becomes as long as it is wide.

The original -- The question whether the innate or the acquired is the most important, "n' a pas de sens" (makes no sense)! For every character (note: set or rather system of traits of behavior) is a 'rectangle' (model) whose length is the innate and width the acquired.

Character differential.-
1. There are completely genetically determined (congenital) characters.
2. The majority are in between.
3. There may be characters that are acquired entirely through the environment.

Applicative model: Homosexuality .
It seems ("il semble") that some homosexuality's are completely innate. Other homosexuality's - there will be many - correspond to "rectangles" of variable length (congenital, hereditary) and width (acquired). Other homosexuality's may still be completely acquired ("pourraient être").

A continuum (differential).-What is very important, according to literally Cohen, is: a. that there is a continuum between whole and all congenital and whole and all acquired; b. that this continuum is present in all the characters one identifies.

The measurability of a pattern of behavior.-- To know whether a character is innate or acquired, one must be able to measure it (note: in numbers or in classifications that are clear).

Well, to measure the homosexuality, the aggressiveness or the timidity of anyone is an extraordinary difficulty ("une extraordinaire difficulté").

Applicative model: For example, I am unable to measure how homosexual you are because you will not tell me or because you do not even know.

As a doctor I can measure diabetes but not homosexuality. To believe that this can be done is as stupid ("aussi stupide") as if the IQ-test measured intelligence, where the test only blunts the ability to answer given questions!

That is why I can reasonably predict that the behavioral science in question is heading for a terrible fiasco.

Extremely small percentages. - There is supposedly a gene that controls homosexuality. But ... such a thing applies to an extremely small minority of homosexuals. Maybe something like 0.1%.

Note. - In other words: one can expect a lot from behavioral genetics for very small minorities.

For diabetes and obesity, for autism, the same applies. In particular: an extremely small percentage of people are diabetic, obese or autistic because of just one gene.

An extremely small percentage.-- A differently abled minority are diabetic, obese, autistic,-- homosexual due to external factors (due to environmental acquired cases) such as the influence of a virus or the diet.

The vast majority.-- For the vast majority, the two, genetic and environmental, are intertwined.

Overcomplicated.-- To make the problem even more complicated, the genes at work in the frequent case (the vast majority) are not the same as the genes at work alone (the minute minorities).

Consequence.-- Genetics is not everything! To think that it is "everything" is unproven. Immediately it leads to fatalism ("I can't help it, it's my genes").

Psychic or non-psychic illnesses.-- In the case of diseases, one does not have to deal with errors of perception and measurement.

But here too, there is only a small percentage of purely genetically caused cases. So there is very little quick fix (within a decade or so). Because the more the environment causes the diseases, the harder it is to find the genes that go with them. So finding an effective treatment will take even longer (between twenty and a hundred years).

Conclusion. -- Press articles, opinions and so on forget the differential that Cohen stresses so much. That's why we quoted him at length. He has models, counter-models and (a large number of) intermediate models.

Alzheimer's disease.-- ***Bibl. sample*** : L. Meyvis, *Het gevecht met Alzheimer,* (The fight with Alzheimer), in: Campus-krant (KUL) 20.11.1997, 10.

The author reflects the opinion of Prof. Fred van Leuven (CME: Centre for Human Heredity), biochemist in the laboratory for Experimental Genetics and Transgenesis. -- Note: nearly 75% of all dementia cases are AD (Alzheimer's Dementia).

1. ***1907.*** - Dr. Aloïs Alzheimer defines the brain of a severely behavioral and hearing impaired patient. This is based on a post-mortem examination.

a. The brain had shriveled up in an extreme manner. Many neurons had lost their cellular structure and had become fibrous tangles.

b. The cerebral cortex had also degenerated considerably with its amyloid slices (amorphous protein deposits) outside the cells and with its fibrillary tangles in the neurons.

2. Today, a definitive diagnosis is still based on the only certain post-mortem basis: neurodegeneration, amyloid plaques, intracellular tangles... All other diagnostic methods (including scanning) are too imprecise.

Dehumanisation.-- Van Leuven.-- The brain makes the human being: mental abnormalities of thinking, memory, language use are characteristic of the senile dementia that is AD.

Note. - Creutzfeldt-Jacob.-- Known as mad cow disease. - This brain disease also shows neurodegeneration and protein deposits in the brain tissue. But it is characterized by spongiform or sponge-shaped brain tissue. This makes a profound difference.

Towards an experimental definition.-- The (bio)genetic method currently seems to be the most promising method of diagnosis and therapy.

Axiom: -- If one knows which genes produce which abnormality (proteins), then one has molecular insight ("molecular biology").

Model.-1984/1994.-- In that decade, three (or perhaps four) genes were discovered that produce the rare forms of AD that are familial.

It is known that early or familial AD is dominantly inherited and caused by mutations in the APP gene on chromosome 21 or in the presenilin genes on chromosomes 14 and 1.

However small and inadequate, these discoveries set the stage for the original, the other forms of AD.

Original.-- So the original are the other forms of AD. The model sets out to identify the genes and mutations, the molecular basis of neurodegeneration in all forms of AD.

Complexity.-- Genetics is aware of the over-complexity of - what is called - the proteome. It is estimated that by 2005, the human genome project will have mapped some 70,000 to 100,000 genes.

Now, any biological or medical problem can be caused by one of the genes but in many cases a combination of small genetic abnormalities will be the cause. In the case of AD there are clear indications of this.

So much for the first reason for complexity: "We are looking at a mountain of ignorance" (Van Leuven).

Further causes of complexity are
a. Chemical factors, which in many cases are also the cause of illnesses;
b. Environmental influences, which in many cases also cause illness.

Conclusion. **-** Geneticists, yes, but chemists and environmentalists will also be needed. Which means multidisciplinary approach. This given the multifactorial nature of the causes.

Evolution -- The demographic (population) evolution and the development pattern of AD cause a growing number of AD cases in increasing age groups.
For example, about 40% of people over 90 years of age are now demented. "In concrete terms this means that in the long run everyone can or will have an AD patient in their family". (A.c.).

Fundamental research.-- 'Fundamental' is research when it tackles the data and the problems that the data raises, at a high (university) level and thoroughly.

In Europe - says Van Leuven - our fundamental research is also at the top.-- But the USA are a class higher.

1. We hardly have a culture of venture capital, next to or behind research grants.

2. We have no such thing as research professors here: "A colleague - AD - researcher at John Hopkins University told me in November 1997 that they have more professors than students there" (Van Leuven).

3. We are hampered by the fragmentation of resources.

7. *Behavioral biology: a sample.*

We dwell on K. Kotrschal, *Biologie zwischen Wissenschaft und Ideologie*, (Biology between science and ideology), in: Neue Zürcher Zeitung 19/20.07.1997, 14. Not that we are now going to give a line-by-line account of behavioral biology as a science of man: we are going to let someone speak who is trying to make his behavioral biology real, to the point of radicalism. Kotrschal is an ethologist (behavioral biologist) at the University of Vienna and the Konrad Lorenz forschungstelle (research centre).

The recent genetics: behavior is hereditary.-- Here is how Kotrschal sees it.

1.-- In the past, it was assumed that the fundamental patterns of behavior - apparently not all of behavior in its details - are either congenital or acquired.

2.-- Today ethologists think that nothing is innate. However, all fundamental behavior is hereditary. And this to one degree or another.

a. - The term "innate" suggests a really direct influence of the genes, i.e. one of the hereditary units (elements) in the chromosomes (parts of the cell which contain the genes), on behavioral and physiological traits of a living being.

b. - The concept of 'heredity' implies that in individual development 'the blue tracing paper' (the hereditary pattern) is never realized without the influence of the environment.

For without the triggers (reaction triggers) inherent in stimuli from the environment, genes would not be able to build a functioning brain, for example.

What can be determined in any case, by means of breeding experiments on animals or by research on human twins, is the degree of heredity of well-defined characteristics. This degree seems to be in the case of being and personality - according to recent data from twin research - in the range of sixty to eighty per cent. The author refers to McClearn and others, *Substantial Genetic Influence on Cognitive Abilities in Twins*, in: Science 276: 1560 / 1563.

Note -- To express it folksily: he/ she has (a degree of) a nature of his/ her own (or: So the father so (to some degree) the son).

Such is the main theme of Kotrschal's article. The rest in spinning out this leitmotif.

If twins - even if they grow up in the homes of different parents - as personalities show more mutual resemblance than non-related persons, this shows that being a human being is at least partially determined by heredity from the point of view of anatomy and physiology, behavior and mental powers.

A.-- *Objective thinking.*

A scientist can very well control his own preferences during the analysis of established facts. But ... in interpreting the data and in planning investigations he can hardly do so.

Note. - This observation by Kotrschal is a biting criticism of the intelligentsia, the artistic and intellectual vanguard. This too can be explained neurobiologically.

For thinking cannot be separated into two separate compartments, cognition and emotion.

Indeed, it seems that our 'thinking machine' (note: a residue of mechanicism) originally (note: seen within the genealogical history) originated mainly within groups. In fact, any information that reaches or leaves the more rational cortex of the cerebellum also passes through the genealogically (pedigree-wise) older, emotional parts of the forebrain.

One can compare this with the "Theory of Affektlogic" by Swiss psychologist Jean-Luc Ciompi.

Consequence.-- It is impossible to discuss or act without emotions.

B.-- *The moral or conscientious action.*

The counter model.-- The antithesis "noble savage (primitive) / degraded man of today" (as maintained by K. Lorenz) betrays another axiom today.

1. Structures created through evolution are automatically "good" as well.

2. Human work is almost necessarily harmful to "nature" and therefore "bad".

Kotrschal's model

1. Such an axiomatics introduces - again - an artificial dividing line between "nature" and "man".

2.1. It rests on the untrue premise that evolution is goal-oriented, so that it strives from "the lower" to "the higher" in order to eventually arrive at (higher) man as "the crown of creation".

Note -- This reflects an earlier view of evolution.

2.2. Evolution, i.e. the change of living beings through time, does not proceed according to a predetermined direction: it is based on blind, accidental and reactive processes.

Remark -- Therein live, after all, a remnant of older mechanics.

Consequence.-- Kotrschal: the products of evolution are not automatically 'good' or 'bad'.

The foundations of ethics.

Only ethics that is also based on biological grounds (Kotrschal does not elaborate on this), allows us to value nature around us in relation to our own nature.

Note -- 'Ethics' for Kotrschal thus seems to be definable. The question arises: "To what degree is ethics hereditary?".

Man - like all other 'species' - in all his expressions of life and culture (sic) is the result of evolution: in no way is he its "misdelivered mail piece" (as the counter-model advocates).

Consequence .- It necessarily follows that it is impossible to deduce morality and the reasons for 'human' action from the established facts of 'nature'. Violence and infanticide, for example, are "natural" behaviors based on evolutionary principles. This does not justify such practices. Thus Kotrschal.

Note. - Without the introduction of ethics as a separate category, Kotrschal's position - when he speaks of the non-justifiability of violence and infanticide - is unfounded. More and different is needed than mere evolutionism.

The principle of self-interest.-- K. Lorenz (1903/1989), in his *Die acht Todsünden der zivilisierten Menschheit* (The eight deadly sins of civilised humanity), (1971) a.o., invokes a lament for the problems of humanity and its wickedness ("Der Abbau des Menschlichen"), (The degradation of the human). Kotrschal believes that Lorenz was "speaking out" to a number of (genetically hostile) contemporaries.

Kotrschal's "Individualselektion".

The author calls his own evolutionism "individual selection". -- From this point of view, humanity's problems -- which are "ultimately" caused by the evolutionary principle of self-interest ("das Prinzip Eigennutz") -- are not a matter of "social pathology" (i.e., disease in the social sphere). They are "systemic immanent" (unavoidable within the actual evolutionary system).

With regard to the "incorrigible optimists" (on evolution), it should be noted that this individual-selectionist diagnosis has more realistic solutions in view than those of evolutionary idealism (of Lorenz and others).

Egoism/ altruism -- The American population geneticist R.A. Fisher demonstrated in a telling manner why altruism - the tendency to sacrifice oneself for others - cannot be evolutionarily stable: after all, self-denial sacrifices one's reproductive capacity.

Consequence: the gene combinations of altruistic life forms fade from the population.

Note. - Real self-denial sacrifices much more and different than mere reproductive capacity!

Yet a kind of altruism.-- The fact that animals and men - (note this combination)- occasionally help each other is irrefutable. How to explain it?"

A. Hamilton, R. Dawkins, M. Maynard Smith and others found the convincing answer. It has stood the test of ecological, ethological and socio-biological research for the last thirty years. In particular: either cooperation (aid) is mutual or it is based on genetic kinship, since precisely one's own genes are - to a certain extent - also present in one's children, descendants, brothers and sisters, uncles and aunts, etc.

What's more, in this way one's own reproductive instinct can be ensured - thanks to the help of relatives - even more effectively than thanks to the attempt to reproduce oneself.-- Examples are e.g. insect communities and the many help systems in fish, birds, mammals.

Remark. - Note again a. the emphasis on procreation and b. the peculiar assimilation of man and animal (as if there were no qualitative leap from animal to man).

The most dangerous rivals.-- Strange: the members of one's own group are the most rabid rivals! Not the animals of the other 'species'. Explanation: the killing of rivals, of children, may simply be an evolutionary 'principle', as K. Kotrschal, *Im Egoismus vereint? (Tiere und Menschentiere: das neue Weltbild der Verhaltens-forschung)*, (United in Egoism? (Animals and Human Animals: The New World View of Behavioral Research) Piper, 1995, explains

See what the genes - at least to some extent - work out!

The idealistic idea that “nature” is fundamentally “good” was replaced by the less sympathetic, but essentially more consistent with ascertainable facts, system of “Individualselektion” (individualistic-selectionist theory).

So today’s biology sees more individual free space between the genes. But ... it ‘relativizes’ (note: sees the limitations of) the ideals of freedom and equality once and for all.

The noble savage/ degraded civilized.

If - according to J.-J. Rousseau (1712/1778; final figure of the French enlightenment) and Bernardin de Saint-Pierre (1737/1814; writer of exotic novels) and a certain romanticism - primitive man was a “noble savage”, then it followed that -- since the weakening of that noble natural man -- present-day modern mankind has been a cultural regression (instead of e.volution in.volution) - a.o. in the form of moral degeneration (a.o. sex).

This view is to be rejected today on sound scientific grounds. According to Kotrschal. This is because evolution is both good and evil in behavior.

Note -- Kotrschal -- K. Lorenz was with Nico Tinbergen (+1988) the 1973 Nobel Prize winner in medicine. With Tinbergen he was the founder of ethology. He immediately attempted to blur the boundary - the qualitative leap - between animal and ‘human animal’.

Yet Lorenz was rather septic towards recent biology. His concept of ‘nature’ was not compatible with - it would seem - a piecemeal evolution (Individualselektion) that demands a cost-benefit balance from its individuals. Lorenz seems less ‘rational’ to Kotrschal in this respect. Perhaps he was still under the influence of “a remnant of enlightened romanticism”, -- a current that stubbornly survives to this day.

So much for some idea of current trends in behavioral biology.

Darwinism...Let us identify some philosophical points. Ch. Darwin (1809/ 1882) - *Origin of species* (1859) - held the concept of evolution to be that slight differences in organisms occur in the course of time. The carriers of the differences which are favorable in the struggle for life have a greater chance of survival (“survival of the fittest”) and also of reproducing.

As if “nature” makes a choice (natural selection).-- At the same time, this Darwinism takes man off his pedestal: “homo sapiens” becomes a human animal! After all, man is only one of the many animal species that arose in the course of evolution.

Note -- Kotrschal notes that the uneasiness about genetics is also fostered by a fundamentalist part of the population. Thus, from a certain interpretation of faith, any research on genes is rejected as being against God’s plan for creation.

Note, however, that not all fundamentalists or integrists share this rejection.

Moreover, the recent fantastic developments in molecular biology (heredity biology) have made the term ‘gene’ (gene is the hereditary element in the chromosomes) seem questionable.

Note -- Think for example of cloning.

Two curious misunderstandings.
Kotrschal points out two misunderstandings.

1.-- *Manchester Liberalism.*-- The Manchester school of economic liberalism dates mainly from R. Cobden and J. Bright who in 1838 formed the Anti-Corn-law League (against free trade with foreign countries).

Immediately after *Origin of Species* (1859), Manchesterianism abused Darwinism: the socio-economic differences between manufacturers and proletariat are determined by “the blood” and therefore hereditary. Thus this division of roles is “natural” and “willed by God” and change - e.g. through education - is neither possible nor meaningful.

2. *Eugenism.*--. ‘Eugenism’ means the science of breeding the human race.

Kotrschal.-- It was biologists and (physical) anthropologists in particular who developed “the pseudo-scientific fig leaf” (note: ideological basis) for eugenism. Among other things, in its National Socialist form. This led, among other things, to the mass destruction (think of the concentration camps) of rejected people.

Note. - It is surprising that Kotrschal does not mention the ethnic cleansing in South Slavia, for example, or in Central Africa (Tutsis/Hutus). Unless that is what he means when he accuses many states of a concept of identity that is genetically based in such a way that the influx of foreigners is understood as a violation of the genetic integrity of the ‘state people’.

8. *Theological reinterpretation of the theory of evolution.*

Those who combat the theory of evolution in the name of the (self-conceived) Bible and those who combat a theological interpretation in the name of (self-conceived) science (as if e.g. evolution theory and creation faith were inconsistent), confuse the domains in which both interpretations operate.

Let us read Vl. Soloviev, *La justification du bien (Essai de philosophie morale),* (The justification of the good (Essay in moral philosophy),), Paris, 1939, 190ss., where he expresses his views on evolution.

General view.-- Beginning with the basic principles.-- Soloviev distinguishes roughly five stages of evolution. Four preliminary (existence as a mineral, life as a plant, conscious life as an animal, spirit-guided conscious life as an earthly human being) and one final stage (God's spirit or life force guided rational-conscious life).

He uses the term "kingdom" to characterize the stages as systems: mineral kingdom, plant kingdom, animal kingdom, humanity, God kingdom.

Perfection.-- The fifth stage only is the perfect so that Solovief is not looking to the past but to a future. Well, a life led by God's spirit or life force would be imperfect if it lacked the mineral existence, the plant existence, the animal existence and the earthly existence of mankind.

In other words, the first four stages are imperfect but constitute an indispensable contribution, thanks to their limited perfection, to the evolution towards the fifth stage which, as it were, preserves and activates the previous four on a higher level.

"The historical appearance of Christ as Man of God is inseparable from the whole evolution of the world. To deny the reality of this event would be to collapse the meaning and destiny of the universe". (O.c., 190).

Note -- Those who know the Church Fathers (especially the Eastern Greek) know that the cosmic perspective in which Christ is situated as a historical figure by Solovief comes straight from patristics. For the Church Fathers, Jesus was indeed the little man, killed on the cross, but he was also the cosmic judge over the living and the dead, as the Pauline and Johannine letters (and Gospel) draw him: immensely humiliated but just as immensely glorified thanks to God's spirit (life force).

After all, Vladimir Soloviev (1853/1900) belongs to the Russian Christian realists whose pioneer was G. Skovoroda (1722/1794). Realists' because well-defined and tested concepts represent 'reality' in our minds.

Christian, because they live in the world of Eastern patristics and liturgies (e.g. Byzantine liturgy) in which the passages of the cross and resurrection are central. This makes them diametrically opposed to Western nominalism (concepts are sounds) and alienation from early Christianity.

That Soloviev was thoroughly acquainted with Ch. Darwin is shown in *La Justification*, o.c., 28ss., where he opposes Darwin's sociological morality in a precise critique.

The relationship "lower / higher forms of life".

In order to understand this section properly, one must assume that Soloviev is more Platonic: God is the creator (as the Bible teaches) of the cosmos who realizes God's ideas (normative-creative ideas). Thus the idea 'mineral' is of all eternity in God's mind. The actual minerals which we determine empirically or experimentally are finite realizations of that one God idea which shows itself in them, if one develops the mind's eye for it.

Plants, animals, human beings, living from God's spirit, are ideas in God's eternal spirit but which, in the course of the evolution of the cosmos, appear in a finite, material or spiritual manner.-- We now listen to Soloviev.

The fact that after the lower forms or types of existence the higher ones show themselves or manifest themselves, in no way proves that the higher ones are generated or created by the lower ones.

Note -- Not "post hoc; ergo propter hoc": just because something comes after something else in time does not mean that it did not exist before!

The order of reality does not coincide with the order of phenomena. Metaphysically speaking, the higher - the richest and the most positive (note: real) - types of existence exist before the lower ones, although the higher ones show up and appear after the lower ones.

Note . - One should not forget that, in Soloviev's view, the more perfect contains the less perfect in itself in a 'heightened' way so that the earlier, less perfect only attains its meaning and destination when the higher will be there.

But - says Soloviev - the fact that the higher appear is not a creation out of nothing:

a. the material basis for the appearance of the newer type is the old type;

b. the positive (note : actual) content proper to the higher type does not arise "de novo" (note.: from the new self) but this content exists from all eternity (note.: as its idea in God's creative mind). This positive content (note: idea) does nothing but enter - at a given moment of evolution - into another (note: than the form of existence in God's mind) sphere of existence, namely into the world of phenomena.

To sum up. -- "The conditions of appearance come from natural evolution. That which appears comes from God". (O.c., 192).

Note: Soloviev does not demonstrate this from the positive sciences (paleontology, biology, genetics, etc.), as some fundamentalist creationists today try to do. No! He speaks as a metaphysical thinker who also thinks along Christian-platonic lines. He does not confuse the models. Not separate, but distinct!

Detailed description.-- . Soloviev.-- Such a metaphysical conclusion does not deny evolution. It is undeniable because it is a fact.

But to claim that evolution (note: by its own power) creates the higher by means of the lower forms of existence - which after all is "creating out of nothing" - is to replace (note: to transform) the fact of evolution with logical nonsense. For the evolution of the lower types of existence cannot possibly create from itself the higher.

Note.-- As Soloviev says, o.c., 191 : from "a + b" I can draw a or b, but from "a" I can draw only a.

In other words, if the lower is only the lower, without the higher, the higher cannot be drawn from it.

Soloviev.--But what evolution does is to produce the material conditions or a favorable environment for the higher type to appear or manifest itself.

In other words, every manifestation of a new type of existence is - in a sense - a new creation.

Conclusion--See how Soloviev, on a patristic-Biblical background, situates evolution in God's work of creation: God has long kept in mind the perfection that comes in the end, and builds up the evolutionary stage after stage.

The five realms.-- O.c., 187.-- Soloviev first summarizes again. “The stone exists. The plant exists and lives. The animal lives and is aware of its life. Man understands the meaning of life from thought. The sons of God (note: the biblical term for those who possess God’s supernatural life) actually realize the meaning of life in an active way, i.e. the perfect conscientious order in all things until the end (note: ‘end’ refers to the end time)”.

Note -- Soloviev gives here a sketchy definition based on a phenomenology proper to common sense, i.e. common sense in so far as this is a characteristic of all people who are more or less mature in spirit. As will become clear, Soloviev’s phenomenological sketch does not mean that a physicist, a biologist, or a man of science cannot deepen the features found in the common sense in a scientific - that is to say, a specialized - manner. On the contrary, let us not forget that:

a. Physics, biology and human sciences - when they began - possessed nothing but what common sense had long since seen,

b. the specialist scientist - once he is outside his study or laboratory - falls back into the world of common sense (be it with some correction from his specialization).

In other words: the world in which professional scientists and non-specialists (the latter being the vast majority) meet. This is evident, for example, when a specialist scientist is eating or making a bargain at a department store.

1. - ***The stone.-- Note.--*** It may seem surprising that this subsection is given this title, but what follows shows what Soloviev precisely means, namely, “the stone” as the model par excellence of unchanged existence.

a. -- ***Existence.*** -- Soloviev is and remains an ontologist -- “The stone exists! -

Model.-- This is clearly shown by the effect of the stone on us, which can be established by the senses.

Counter-model.-- Whoever denies such a thing can easily verify it if he hits his head against a stone. What has been established for a long time!

Note -- Soloviev knows that by speaking in this way he puts himself on the side of common sense: “As I. Kant (1724/1804; top figure of the German Aufklärung) rightly believes, such an argument is insufficient for ‘theoretical’ philosophy (note: as Kant, at the time, understood ‘theory’, i.e. rationalist).

When I start from the theory of knowledge, I am talking about the being of things, but within moral philosophy (note: *La justification du bien* is a moral philosophy book) this argument is sufficient since it convinces every consciousness".

Note -- By "every consciousness" Soloviev evidently means the consciousness of reality proper to the common mind.

b. *Essence.*-- The stone is the most typical example ('embodiment') of the fundamental concept of 'existence' as such. In contrast to the abstract conception of G. Hegel (1770/1831; top figure of German idealism), "the stone" does not show any tendency to change into its opposite.

By the way: in Hegel's dialectic (note: in which everything is changeable) "pure existence" (as Hegel calls it) turns into its opposite, "pure nothingness". The stone does not do this: it is what it is.

Indeed, "the stone" has always been considered the symbol of unchanged existence. The stone "in general" can be seen as the most typical embodiment of an unchanging existence. But this does not mean that the stone is automatically identified with the basic concept of existence or that the mechanical and physical properties of a concrete stone are denied.

Soloviev: Thus "the boar" is held to be the most typical "embodiment" (or symbol) of "carnal life". In this sense one speaks of 'piggery'. But this does not mean that, apart from its 'piggery', the pig also has no other characteristics: four legs, two eyes, two ears and so on.

In other words: "the stone" is what it is and what it has always been: a symbol of unchanged existence.

Comparison.-- The stone does nothing but exist (note: as an inorganic reality): it does not live just as it does not die. This is shown by the fact that the fragments into which it can be crushed do not differ qualitatively (note: intrinsically, specifically) from the whole stone. I am speaking here of the stone as the most striking and appealing model of inorganic bodies in general. Such a body, as an inorganic body, possesses no real life of its own.

Note. - Remarkable: Soloviev seems to react against Hegel with his peculiar concept of "existence" as reversible in "nothing" and against Hegel's dialectic which interprets all being as movement (change with qualitative leaps, change with reversal): the inorganic matter of which Soloviev interprets "the stone" as a symbol now, although being (reality), does not show any change! Also and above all no life which Soloviev sees as change.

Religious history remark.

In contrast to most rationalists of his time (and ours), Soloviev, who in his younger years had lost his ancestral faith under the influence of the enlightenment (rationalism) that was so prevalent in Russia, but who saw through the crisis of 'Western' rationalism and evolved into a renewed religious awareness - in this sense he is post-modern - was thoroughly familiar with the science of religion of his time. Evidence of this is provided by, for example, *La justification du bien,* (The justification of the good.), 80 ff. (*Le principe religieux dans la moralité*), (The religious principle in morality). What follows bears witness to that and is comprehensible from there.

That an inorganic body, being inorganic, has no life of its own is a metaphysical conclusion which does not, however, judge life in nature in general. Nor about the presence of a 'soul' in the more or less complicated aggregates of nature such as the sea, the rivers, the streams, the mountains, the forests.

Well-defined inorganic bodies - think of stones - can, even though they have no life of their own, nevertheless serve as durable means for the local living activity of spiritual beings. Thus, for example, there are the wisdom stones - bethel (dwelling place of God) - which were conceived to include the appearance and operation of angels or divine energies that appear to 'inhabit' such stones. -- Thus Solovief .

Note -- He is alluding here to Genesis 28:19/22, where Jacob 'sees' (mantises seeing) angels ascending and descending in a dream and Yahweh (God) appears to him: "How horrifying this place is! It is nothing less than the dwelling place of God and the gate of heaven! He gave the name 'Bethel' to that place.

That non-Biblical religions venerated nature and its parts as 'holy' places, where spirits of nature and ancestral souls 'dwelt', is a known fact (at least if one has studied a minimum of religious science).

2.-- *The plant.*-- The plant exists but lives.-- This is clearly shown by the fact that a plant dies. Whereby it is not life that precedes death but death that precedes life.

Thus there is a clear and essential difference between a growing tree and firewood, between a fresh flower and a wilted one. A difference to which nothing answers in the mineral kingdom.

a. Stones and metals are distinguished from the rest by their extreme degree of 'self-satisfaction' (note: a metaphor for 'unchanging confinement to oneself') and 'conservatism' (note: petrification).

Had it been for stones and metals, nature would never have awakened from its dreamless sleep (note.: immutable confinement to itself).

b. But without such inorganic bodies, the later growth of nature would have lacked its basis, its firm ground.

3.-- *The animal.*

Like the life of plants, the consciousness of animals is an undeniable fact. This can only be denied by using an arbitrary and artificial terminology that cannot be imposed on anyone.

Consciousness.

Consciousness of something, generally speaking, is, according to the natural meaning of the word, a well-defined and regular correspondence and mutual activity between the inner psychic life of a given being, on the one hand, and its environment, on the other.-- Such a correlation is undoubtedly present in animals.

a. -- *Vigilance.*

The ordinary means by which an animal is conscious of all that surrounds it cease in a state of sleep.-- However, this in no way excludes the possibility of a "different environment" and "different psychic reciprocal activities".

In other words, the consciousness of the animal may possibly, in sleep, issue with its attention to another sphere.-- If this is so, the periodic transition from a given psychic life, proper to a sphere of consciousness, to another psychic life would show - with even greater evidence - that conscious life is proper to all animal life.

Note -- Soloviev gives no further explanation here. Perhaps this recalls discussions about waking and sleeping consciousness (think of our dreams).

Just as the presence of life in the plant world is clearly demonstrated by the distinction between living and dead plants, so the presence of consciousness in animals (at least in the higher evolved animals typical of the animal kingdom as a whole) is clearly illustrated by the difference between a fallen animal and a waking one.

Note.-- Just as when he talks about plants, also here: Soloviev proves something (model) by citing the counter-model: living/dead plant; awake/reawakened animal.

The distinction, after all, lies in the fact that the waking animal consciously participates in the life around it. Whereas, in the psychic world of the fallen animal, direct communication with the surrounding life clearly ceases.

Note .- Even if an animal were to communicate with other spheres during sleep, it still does not communicate with the environment in which it is awake.

b. -- ***Associative consciousness***.-- The animal not only has sensory experiences and images at its disposal: it links them by means of appropriate associations. a. The instantaneous interests and impressions predominate in animal life.

Note -- In other words, it lives first and foremost in the "now". b. But it remembers its own past states of consciousness and anticipates future ones.

Counter-model..-- If this were not so, education and training would be impossible. well, dressage is a fact. No one, for instance, will deny memory in a horse or a dog. Well, to remember is to be aware.

c.-- ***Anatomical remark.-- counter-model.***

To deny consciousness in animals (which some thinkers did) is to reduce (note: reductionism) all animal life to blind suggestion of instinct.

If this were so, how then to explain the gradual development of the cerebrum, which in highly evolved animals is the organ of conscious psychic activity? If the corresponding functions are not there, how could this organ ever have emerged and developed?

Note -- It can be seen that Soloviev does not simply separate consciousness and biology! On the contrary. However, he does not simply conflate them, as materialists do.

In other words, unconscious - instinctive - life does not need a cranium. This is deduced from the fact that the development of the instinct appears - as a general rule - before the cranium and reaches its highest degree in those beings which lack the cranium.

Note -- Soloviev adds: the superiority of the social instincts of hunting and building in bees and ants certainly does not depend on the cranium - strictly speaking they do not have it - but on the perfect development of their sympathetic nervous system.

Note -- Since Soloviev, of course, studies of the brain and nervous system, etc. have progressed a great deal. But we remember his breaking away from the purely phenomenological description of the stages of evolution by means of biological data.

4.-- *Man*.

Soloviev refers to man before he becomes a "son/daughter of God", as the Bible states. We say: the earthly man.

Reason -- Man does not differ from animals in consciousness but in the presence of reason, that is, in short, the ability to form general concepts and ideas.

Animal consciousness.-- The presence of consciousness in animals is evidenced by their movements that are purposeful, their facial expressions and their language, which consists of a variety of cries.

Note -- In addition to purposeful movements, animals are notable for their expressive capacity (mimicry and cries); their language.

Human rationality.-- The fundamental radical sign of human rationality is the word. It expresses not only states of a given consciousness (note: what would be animal stages) but also the general sense (note: purpose, destination) of everything.

Ancient wisdom rightly defined man not as a being possessed of consciousness (which remains below human level) but as a being gifted with the use of language, i.e. a being gifted with reason.

Note -- One also says "a reasonable being".

The human capacity for truth -- From the language of reason naturally flows the capacity to grasp the truth which encompasses and unifies everything.

Note.-- This is Soloviev's way of expressing man's ontological capacity: "being" is all-encompassing.

The all-embracing capacity for truth is active in very different ways in the diversity of peoples so that gradually the human realm rose above the ground of animal life.

Note.-- Soloviev was thoroughly familiar with modern thinking since Descartes' subjectivism, which focused on "inner consciousness" (le sens intime). Therefore he felt obliged to distance himself from modernity and was already postmodern in his time.

Note.-- ***The ontological potential.--*** O.c., 48.-- Man - like the animal - participates in the life of the universe. The essential difference lies in the way.

a. -- ***The animal as an animated being*** participates innately-psychologically in the processes of nature which affect it: it knows which are pleasant or unpleasant; by virtue of its instinct it feels what is harmful or useful for it and its species.

But all this is limited to the center of life which immediately surrounds it at a given moment (note: it lives in the 'now'). In other words, the movement of the world as a whole is not at all there for the animal soul which cannot know anything about the reasons and purposes of that overall movement. Its participation in it is therefore passive or instrumental.

b.-- ***Man.--*** He values his participation in the universal processes not only with regard to certain phenomena which affect him as psychological suggestions but also including the general principle of all activity. That is, including the idea of "worthy or unworthy existence", "conscientious or unscrupulous existence", which itself becomes the basis of human activity.

This inner, higher and critical consciousness of himself places man in a definite way in the movement of the world as a totality, -- places him in a participation in the purpose of that movement.

Note . - According to Soloviev, o.c., 150, man's ontological capacity manifests itself axiologically in the feeling of shame (towards what is low in man), the feeling of solidarity ("endearment") (towards his fellow man) and the feeling of reverence (towards what is higher than man).

These three basic feelings of the human spirit as a state of mind form the basis of his moral philosophy: whoever lacks them is, in his eyes, an a- or immoral being.

Human animism.-- O.c., 184.-- ‘Animism’ means ‘belief in soul’ (‘anima’, soul (lat.)).-- Just now we saw that Soloviev ascribes to animals as ‘animated beings’ a psychic or soul life through which they participate in what the environment provides.-- Here is what he says about the human soul.

“The soul shows itself”.

Note -- He is speaking as a phenomenologist - to us in our inner experience: not only as something distinct from material facts but also as a constructive force that takes on and subdues material phenomena”.

Subjugation of material phenomena shows itself, among other things, in self-control when our biological striving threatens to overwhelm us (asceticism, mortification). Something he elaborates on extensively.

We know the physical phenomena from the external senses. The psychological phenomena we know by direct introspection.-- Already from this point of view, both phenomena are qualitatively distinct.

No Cartesian dualism.

With Descartes, man is “an angel in a machine” (J. Maritain), i.e. an introspective consciousness in a body which is interpreted mechanically.-- Here, too, Soloviev opposes Cartesian modernity: “Experience - both immediate and individual, and scientific and historical universal - shows beyond doubt that - despite the qualitative distinctions referred to - there is no radical separation between the real essence of the nature of matter and that of spirit: the two go hand in hand and interact without interruption.

Note.-- What is for Solovief a demonstrated fact, was for Descartes’ dualism a question.

This completes what philosophy, metaphysics, has to offer. Now the Christian philosopher Soloviev speaks. Immediately we have a model of what is called “biblical philosophy”.

5.-- Biblical man.-- Ultimately, the essence of earthly man lies in the ideal requirement of a perfect order of conscience: the requirement of the kingdom of God.

Note.-- In the Bible, “kingdom of God” means God’s activity in the universe he created. God’s government of the universe. This has been active from the beginning of creation.

Here “the kingdom of God” means the activity of God in the end times (which begins with Jesus).

The immediate preparations.-- The kingdom of God, i.e. God's universe government, at work through the stages of evolution, comes to a final stage in late antiquity.

Note.-- Soloviev simply expresses a New Testament assertion with this.

a. -- *Intellectually*.-- The human mind, in its evolution, approached the ideal of the God-man (note: Jesus) and the idea of the "Kingdom of God" (in the end-time phase) by two ways: with the Hebrews it was by the way of prophetic inspiration and with the Greeks by the way of philosophical thinking.

Soloviev says that he derives this duality from Philon the Jew (-13/+54; a Jewish thinker in Alexandria): according to Philon, the Jewish-Biblical and the philosophical-Greek paths ran together. From this point of view - says Soloviev - he is "the last and greatest thinker" of the ancient world.

Note: Indeed, in a theosophy, i.e. a thinking which wants to be thoroughly scientific and at the same time thoroughly religious, Filon fuses the Bible and philosophy, ancient Judaism as well as the stoa (a deeply religious materialism) and later Platonism.

b. - *Political-cultural.*-- In parallel with the intellectual evolution - albeit slower - the political and cultural unification of the main historical nations of the East and West took place: it took shape in the Roman Empire.

Explanation.-- Natural, that is, pagan, humanity was given its "absolute and divine level" in Hellas and Rome.

Note.-- One may ask whether Soloviev here does not "compete" too much with Hegel's conception of history, which also evolves towards an "absolute" stage.

Soloviev.
1. *With the Greeks* this ends up in a beautiful, sensual image of man (note: think of Greek sculpture, for example) and a philosophical idea (note: think of the idea 'the(i)osis', lat.)

2. *With the Romans*, this becomes "practical reason" (note: a Kantian term), i.e. the will, which takes the form of (political) power (note: indeed, the ancient Romans - Christians recognized this as well - realized the pax romana, the Roman peace, by their will to dominate the peoples but in such a way that a great diversity of cultures found a place in a space stretching from Scotland to Iraq.

What follows presupposes the fact that Soloviev is still alive, like most Eastern Christians of the Eastern Greek Patristics (30/800), which indicated as a summary of the biblical Christian life: God becomes man in order that man may be deified (“ Enanthropèsis Theou the(i)osis anthropou”, i.e., God’s incarnation is man’s deification; -- in Latin: “Incarnatio Dei deificatio hominis”).

It should not be forgotten that this deification extends beyond mankind to the whole cosmos: when Jesus becomes human in Mary’s womb, he already deifies inchoate (beginning) the whole of nature in its sacred history. Soloviev, writing for Russians, assumes this theology of Christianity to be known.

Whereas in Western Christianity the emphasis is on church hierarchy and obedience to the law (this is how Eastern Christians feel), among Eastern Greek Christians the emphasis is on Jesus as a cosmic figure.

The idea - according to Soloviev - “absolute man”, “deified man”, made its appearance (note: in the late antique pagan world).-- Of course, this idea - as pagan - is doomed to remain abstract, a simple hypothesis. In particular, just as it is impossible for an animal to reach the level of man in his rationality and his gift of the word (note: two typically human traits) through purely animal efforts, so too is it impossible for mere man to make himself a god.

Note. - Just as the stone as a mere stone never becomes the plant and the plant as a mere living and dying non-animal being never becomes the animal (from a one draws only a and never b), so too here.

Soloviev: animal nature stayed at its level of evolution and thus it reached only the ape; human nature did not reach beyond its level and came to the deified Roman emperor (note: especially under the phase of the dominate). However, just as the monkey announces man, so the deified emperor announces the God-man (Jesus).

Behold “the great story” (Fr. Lyotard) of evolution incorporated into the great story (sacred history) of the Bible. The fusion of both comprehensive cosmic views is the core of Soloviev’s “theosophical” (Bible and reason uniting) philosophy.

9. *The God-man (Jesus) as 'ideal'.*

O.c., 194.-- 'Ideal' is used here in the evolutionary sense.-- When one describes the Man of God who sets forth the kingdom of God (note: in the eschatological or end-time sense) as 'an ideal', this does not mean that he is reduced to the object of a representation (note: the ordinary meaning). Indeed, he is called 'ideal' in the sense that for the earth from which it rises, the plant can be an ideal, or that for the animal, the human being can be an 'ideal'.

More 'ideal' .- The plant is more 'ideal' (note: than inorganic matter) in the sense that it possesses a higher 'dignity' (note: more elevated degree of reality). However, compared to a clod of earth, the plant possesses a greater - and not a lesser - reality or fullness of existence.

The same applies to the animal when compared to the plan, to the natural (i.e. pre-Biblical) man when compared to the animal, to the man of God when compared to the 'natural' man.

Note -- Here one is literally groping the Platonic Soloviev because "idea" is "reality" (i.e., in its structuredness) and "ideal" is "more real reality" (than that which is oriented towards that more real type of reality).

"Increased power". -- As a whole, the higher 'dignity' (reality) of the ideal (as content) is directly proportional to the increase of power (capability).

Thus the plant possesses the real power to transform e.g. inorganic matter -- for its own purposes -- power which a clod of earth does not possess.

Thus man is mightier than the ape, and Christ has incomparably greater power than the Roman emperor.

With regard to the latter, natural man differs from 'spiritual' (i.e., living out of God's spirit or life force) man not in that he lacks the higher, spiritual element, but in that he does not possess - solely by himself - the power to realize this spiritual element. In order to obtain it, he/she must be "impregnated" by a new act of creation (cf. Ps 51 (50):12), i.e. by (what orthodox theology calls) the grace that gives the children of men "the power to become children of God (John 1:12).

Here one sees how thoroughly Soloviev also mastered Eastern theology.

The historical Christ.-- Now that Jesus is evolutionarily situated, let us consider the historical fact of Jesus.

1.-- ***From the caricature to the original.***

At the moment when the pagan world was absorbed in its spiritual failure in the person of the unreal deified man, namely the emperor who in his impotence imitated the deity, philosophical and believing souls expected the incarnation of the 'logos' (note: John 1:1; 1:14;-- the second person of the Holy Trinity as cosmic wisdom, usually translated by 'Word'). This is the coming of the Messiah.

Deified man - even if he were the ruler of the whole world - is only an empty dream. The God-man Jesus, however, can really make the true nature of the deified man visible: even in the appearance of a travelling rabbi.

2. - ***Historicity of Jesus.***

Historicity' here does not mean the fact that cosmos and especially man are subject to a history (having a history, making history), but the fact that something or someone actually existed, verifiable by historians.

The historical existence - says Soloviev - of Christ and the reality of his being and work, as recorded in the Gospels, escape the grip of some form of doubt. Inventing Christ was impossible: no one could do it. For the radical historical image that the gospels offer of him is that of the perfect man.

The (evolutionary) reason which leads us to believe in the testimonies of the New Testament, consists in the fact that the historical appearance of Christ as a Man of God is inseparable from the whole evolution of the world: In other words: if one denied the reality of that event, one would collapse the sense and purpose of the universe.

Explanation.-- Soloviev develops his argument in two times.

(a).-- ***From animal to man.***

By reason and will the perfection of mankind is conditioned. Even in the "savage" (note : natural man, primitive), including the most backward, these faculties exist even if in rudimentary form.

It is impossible to derive the higher faculties (reason and will) from animal nature, for they create ipso facto a human realm distinct from the animal kingdom.

(b).-- *From natural man to 'spiritual' man*.

We repeat: 'spiritual' means here, as in Genesis 6:3, "that which exists and lives out of God's ruah, gr.: pneuma, lat.: spiritus, i.e. life force of a 'supernatural' nature".

Soloviev.-In a similar way, it is impossible to deduce from the characteristics and states of natural man the typical characteristics of 'spiritual' man, i.e. of that man who is not only in the process of his perfection but is already perfect.

Consequently, as a result of the uninterrupted evolution of a merely human world, the kingdom of God is inconceivable. The God-man Jesus does not coincide with the deified man (the emperor).

Note.-- That is why the evangelists, who began as ordinary people, could not invent Christ as he is described by them, as some 'critical' historians advocate. Unless one, covertly or not, reduces Christ to "an ordinary man like all of us". In other words, unless one commits 'horizontal' (secularist) sophistry.

Forward-looking individuals.

All this - says Soloviev - does not prevent that, within natural mankind, there may have existed and in fact did exist "separate" individuals who anticipated the higher life that was coming. Just as a sea lily (hair star) appears at first sight to be a water plant, so too the bearers of the kingdom of God (note: those who live from God's life force or spirit) do not appear to differ (and do not differ in any way) from the people of "this world" (note: the natural people) in the initial phase.

This is despite the fact that the principle of a new order of things already lives and is active in them.

So much for Soloviev's interpretation of evolution.

O.c., 185, he says that one can also divide things differently -- plants and animals can be summarized in "the organic world". Inorganic, organic, human can be summarized as a threefold increase. These three together can be contrasted as "this world" (a biblical term) with the kingdom of God.

But - he says - here we are talking about qualitative leaps in terms of idea (resp. ideal), i.e., structured reality, and so we fall back on the five realms as explained in detail above.

From the foregoing it is clear that - Soloviev died in 1900 - he had studied evolution as a believer for many years.