

# On the Philosophy of Creation in Physics and Cosmology

Mathias Hüfner 2024

» *Dubium sapientiae initium.* «

Philosophy is intended to create a worldview and a system of values in order to give people orientation for their actions within their cultural context. One of the fundamental concepts of philosophy is the concept of *creation*. As a theological concept, creation in the Christian view means nature and its relationship to God, or the relationship of God to nature and man. The cosmology pope Martin J. Rees writes about this in the foreword to a collection of essays that honor George Lemaître's legacy on the creation model of the world:

» *A challenge for 21st century physics is to decide whether there were many Big Bangs or just one, and (if there were many) whether they are governed by different physical laws, so that what we call the laws and constants of physics are just narrow secondary laws in our little cosmic patch. Many theorists suspect this. If these theorists are right, the Big Bangs could be the turning point, and then it would be no surprise that there was a Big Bang that was finely tuned enough to allow the chain of events that led to the formation of a biosphere.* «<sup>1)</sup>

He continues somewhat more cautiously:

» *We don't know - but maybe one day we will. It is speculative science, not metaphysics.* «<sup>2)</sup>

No, we don't know and we never will, and yet it is metaphysics, because hypotheses, falsely presented as theories, are no substitute for experience. Such "theories" can be completely self-sufficient without reference to reality. These astrological theories are not a speculative science, for that they would have to be based on knowledge, but the idea of the Big Bang is itself just speculation, which seeks to read distances and speeds solely from the Doppler effect without taking into account the dampening transmission medium of the ether. Only stereometric measurements provide reliable distance measurements.

We cannot form a picture of the past without having clear relics of developmental stages of past epochs in front of us, because unlike Einstein's view of time and space as independent of each other, this is a developmental process in the cosmos in which the present is causally dependent on the past and not the other way around, and this also applies to the light that has lost energy on its way through the vastness of the cosmic medium to us. The philosophy of physics should be a natural philosophy that deals with matter as the forms of motion of masses and distinguishes itself from metaphysical endeavors.

---

<sup>1</sup> R. D. Holder • S. Mitton Editors - *Georges Lemaître : Life, Science and Legacy*; Springer; <https://link.springer.com/book/10.1007/978-3-642-32254-9>

<sup>2</sup> Metaphysics means the spiritual - the claim to be able to formulate knowledge outside the limits of sensory experience.

Based on the principles of the philosophy of René Descartes, who divided the world into the spirit of God, matter and the human spirit, the fundamental question of philosophy arose as to the primacy of spirit and matter. The answer to this question divided philosophers into the camp of materialists and the camp of idealists. While the materialist renounces the spirit of God and understands the spirit as a structure of matter, for the idealist the human spirit is always connected with its reflection transformed into the divine. In religious madness, the human spirit is therefore elevated above matter without any material connection, without understanding that information is a structural property of matter itself, as the applications of artificial intelligence show us.

Dialectical materialism, which emerged in the 19th century, was one-sidedly focused on the needs that set people apart from their natural environment through the production of their food. <sup>3)</sup> A materialistic philosophy of nature, on the other hand, remained rudimentary, <sup>4)</sup> especially since it overemphasized contradictions and <sup>5)</sup> ignored synergies. At the same time, the scientific foundations for our current material prosperity were laid in that century. At the beginning of the 20th century, natural philosophy came under pressure from new religious movements, particularly positivism. Modern physics was mathematized, particularly through the influence of Lemaître, Einstein and Heisenberg, and pushed away from its materialistic side, <sup>6)</sup> by separating truth from reality. Moritz Schlick, a student of Max Planck, expressed it like this:

» *A structure of truths created by means of implicit definition rests nowhere on the basis of reality, but floats freely, as it were, like the solar system, carrying within itself the guarantee of its stability.* « <sup>7)</sup>

In the current century, people in the cities of industrialized countries are slowly becoming aware of the effects of climate change that they had removed nature from their consciousness. Now, quick solutions are being demanded to save creation. In most religions, creation is seen as the work of a mysterious creator. However, with the technical development of artificial intelligence, the philosophical understanding of the materialization of an idea has been revived and the term "creation" is also being given a new meaning.

The term *creator* is derived from the ancient Greek word *demiurge* and means craftsman. In a philosophical and theological sense, the term was used for the architect of the *cosmos*. In its original sense, the word means order. But every architect needs building materials that he arranges and puts together according to a plan starting from a basic state. Depending on who created the plan, one speaks of external organization or self-organization of nature. This would then be external organization by a creator with a specific goal, in contrast to the self-organization of living nature, which has its blueprint in the giant molecule of DNA, which also changes depending on environmental influences. But life cannot function without the energetic rays of the Sun. In inanimate nature, no plan equivalent to DNA can be recognized. In open systems, however, a tendency towards a stereometric connection of charge carriers becomes visible, which is the prerequisite for the formation

---

<sup>3</sup> K. Marx - *The German Ideology*. [MEW](#), Volume 3.

<sup>4</sup> F. Engels – *Dialectics of Nature*; [http://www.mlwerke.de/me/me20/me20\\_305.htm](http://www.mlwerke.de/me/me20/me20_305.htm)

<sup>5</sup> [Richard Buckminster Fuller](#) to describe the interaction of forces. Terms such as emergence and stigmergy can also be found for this.

<sup>6</sup> W. Heisenberg – *Physics and Philosophy*; S. Hirzel Verlag Stuttgart, ISBN 978-3-7776-2432-7, p. 87

<sup>7</sup> M. Schlick – *General Theory of Knowledge*; Springer Berlin 1925. 2nd edition p. 35

of more complex structures, which is equivalent to an act of creation except for a defined goal fixation. We speak here of evolution and refer to the interaction of entities as stigmergy or emergence.

The current pseudo-scientific idea of creation from nothing is an idea that not only contradicts the conservation laws of physics, but also many religious concepts. If God says, “ *Let there be light* ,” there must have been a builder beforehand who created the conditions for a Sun to shine. And who has the material for that? delivered? The Bible does not contradict this. It only says “*You shall have no other gods before me*”<sup>8</sup>), because in Egypt, at the time when Moses led the Jews out of Egyptian slavery and invented the god Yahweh, other gods were worshiped. From the very beginning of ancient Egyptian civilization, the light of the sun played a central role. In the early days, the Egyptians equated the sun disk with the god Horus. The name and meaning of the sun as a deity changed over the course of history. With the Re-cult that began in the 4th Dynasty, the visible sun disk was considered the right “Eye of Re”, although the sun disk itself was not referred to as a deity. It was not until the Middle Kingdom that the name Aton was used to describe the sun disk as a deity. The universal god Aton with his radiant hands is associated with the name of the Pharaoh Akhenaten.

In the various advanced cultures of the world we find basic beliefs that have remained unchanged over the centuries and that we can put together like a puzzle to form an overall picture of natural philosophy. In most religions, the gods are personified as leading figures. The inverse tendency to idolize selected The fact that humans are rulers is unmistakable. While ancient democracies practiced polytheism, later

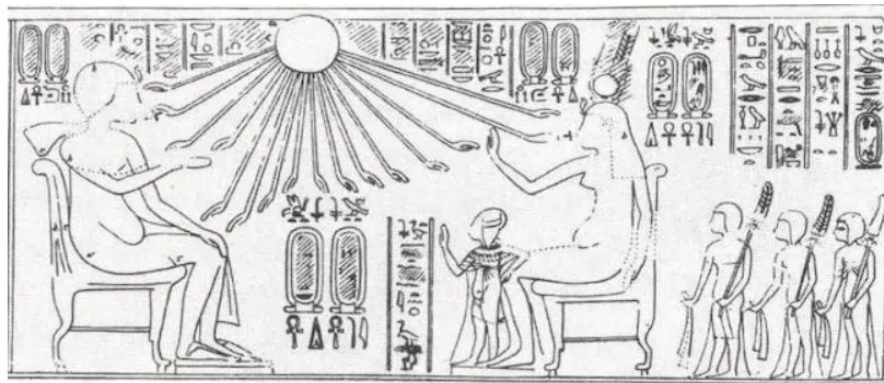


Figure 1: Aton - Sun's representation of Akhenaten

Reference: Das ägyptische Götterlexikon

autocracies have always preferred monotheism. The Christian view separates the universal God from nature and calls for the earth to be subjugated,<sup>9</sup>) which has been elevated to a cardinal virtue in the capitalist industrial states. Economic growth at the expense of nature is the mantra of the ideology of the 21st century.

Another view is the integration of the Creator into nature through the personified Sun. The list of cultures with names of the personified Sun god is long. Only the religion of Akhenaten in ancient Egypt dispenses with a personification of the deity Aton. (Fig. 1) The hands on the rays impressively symbolize the creative activity of the sun, which we can still see every spring, thousands of years later.

While the 19th century was a century of enlightenment in science and technology, the 20th century was a century of the restoration of metaphysics. The old beliefs had indeed become obsolete, but with the theory

<sup>8</sup> Luther Bible Exodus 20:3

<sup>9</sup> See Genesis 1:28

of relativity and quantum theory, physics in the 20th century, based on its mathematically formulated theories and by separating truth from reality, shook the previously firmly held beliefs about the structure of nature, such as the concept of time and the determinism of classical physics. As a result of the internationalization of the sciences, it is necessary to create a solid foundation for physics again and to abandon the hubris of the alleged superiority of Christian doctrine.

Creation, preservation and destruction determine a sequence of events and this sequence of events runs cyclically in space and time. Contemporary Western philosophy, however, has a problem with *time* and *space*, as Stephen Hawking's *A Brief History of Time* reveals.<sup>10)</sup> In it, a time independent of space begins with an explosion, i.e. a destruction, the effects of which are the expansion of space. Although he wrote an entire book about time, questions remain unanswered. What is time? Is time absolute or relative? Can time run backwards? Does time have a physical meaning?

An insightful conversation about the different views regarding the position of God in nature took place between Albert Einstein and the Indian philosopher Rabindranath Tagore in Caphut in 1930.<sup>11)</sup> For Tagore, nature was the "Universal spirit"<sup>12)</sup> with which man is related. Hindu philosophy describes the cosmic functions of natural processes with creation, preservation and destruction, represented by its three main deities, Brahma, Vishnu and Shiva. Here, too, gods are represented with many arms and hands and the universal spirit by many heads. The **AUM** symbol (Sanskrit: ॐ) of Hinduism is seen in a nature-related interpretation as an allusion to the Trimurti, with the phonemes *A*, *U* and *M* of the word indicating creation, preservation and destruction and together representing Brahman. In a human-related interpretation, the sound "A" represents the waking state of consciousness, "U" represents the dream state, and "M" represents the deep sleep state. The silence that follows the chanting of *AUM* represents the state of pure consciousness or transcendence. Together, these syllables are meant to symbolize the entire spectrum of human experience and the path to self-realization. However, this is where Hinduism, like all religions, slips into mysticism.

In Indian philosophy, time is a cycle without beginning and without end, like the movement of the earth and the moon around the sun. For Immanuel Kant, time, like space, was a "pure form of perception" - that of the inner sense. It is our access to the world, and is therefore one of the subjective human conditions of knowing the world, and is thus the special form that human consciousness gives to sensory impressions. Consequently, time is relative, dependent on location and directed, regardless of what other opinions about time have been held over the last century. Mathematically, time is an *order relation* between this cosmic movement and our clocks. Physically, it is realized by a timed flow of energy, which represents the duration between two constantly repeating events or states that are counted. It thus forms the basis for a binary information system, such as we use in every computer. The change of events or states can be perceived sensually and represented in consciousness, which is why time is to be understood as an order relation between the outside world and consciousness. In a society, time is subject to general agreement, like any physical unit of measurement.

Greek philosophy provided the substance that undergoes changes over time. Heraclitus identified fire (ionized matter) as the primary substance and he said: *Panta rhei* - everything flows. The word *ev*

---

<sup>10</sup> St. Hawking – *A Brief History of Time*;  
<https://www.amazon.de/Eine-kurze-Geschichte-Stephen-Hawking/dp/3499626004>

<sup>11</sup> "Note on the Nature of Reality", <https://www.organism.earth/library/document/nature-of-reality>

<sup>12</sup> Universal Spirit means in the physical sense: nature is the carrier of a structure and thus of entropy or information.

everything was specified in the fifth century BC by the *four elements theory* of the Greek natural philosopher Empedocles of Acragas. Even today we understand this idea as the *four phases of matter* and according to this, matter is *mass in motion*, where *mass* is another physical relation that has a reference to a defined solid body called the prototype kilogram. The term *mass* means something uncountable in comparison with the countable quantity. The prototype kilogram makes mass weighable. Mass is divisible up to the size of atoms and elementary particles. Mass is often confused with weight. Weight is caused by a force that is the result of the action of atomic charges.

Atomism emerged in Greece in the fifth century BC, primarily through Leucippus and Democritus (460 or 459 – 370 BC). Leucippus was the first representative of the philosophical *school of Abdera*. Democritus was the student of Leucippus who actually founded atomism, and their contributions are difficult to separate. Democritus' central statement on this is:<sup>13</sup>

»It is only apparent that a thing has a color, it is only apparent that it is sweet or bitter; in reality there are only atoms and empty space.«

Democritus believed that atoms are too small to be perceived by human senses, that they are infinitely numerous, that there are infinitely many types of atoms, and that they have always existed. They move in a vacuum, which Democritus called the *void*.<sup>14</sup>) This concept has essentially proven true. Only the void must be replaced by the force field between the positive and negative charges of the protons and electrons, and the types of atoms are limited. Flow expresses the three forms of motion of matter: source of force, conduit of impulse, and energy sink. There is structure and order in energy, and this brings us back to the divine Brahman.

In physical terms, this Brahman is nothing other than the concept of *entropy*, which was first used by Rudolph Clausius in thermodynamics. While the first law of thermodynamics includes the conservation of energy, the second law of the thermodynamics of closed systems states that entropy can only increase over time.

$$dQ = T \cdot dS \quad \text{and} \quad \frac{dS_{\text{int}}}{dt} \geq 0 \quad (1)$$

Or to put it more simply, disorder can only increase. That would be the Shiva principle. If entropy says something about the order in a real system, its reflection in the mind is information, as can be seen from the comparison of Ludwig Boltzmann's and Claude E. Shannon's definition of entropy<sup>15</sup>).

**We note that information is proportional to entropy.**

The second law of thermodynamics is the law that has always caused physicists great difficulties by breaking the beautiful symmetry, and now it turns out that it is also incomplete because it only applies to closed systems. However, every evolving system is an open system.

Unlike a Closed system, which strives for a stable equilibrium, an Open system usually achieves a dynamic equilibrium between incoming and outgoing flow. In the 1970s, the physical chemist and Nobel Prize winner Ilya Prigogine (Илья Романович Пригожин) made a few basic statements about

<sup>13</sup> W. Capelle - *The Pre-Socratics*, Fragments and Source Reports - Leipzig: Kröner, 1935. (Kröner's Pocket Edition Volume 119) - p. 135

<sup>14</sup> A. Kenny - *Ancient Philosophy. A New History of Western Philosophy. Vol. 1.* Oxford University Press, Oxford, England 2004, ISBN 0-19-875273-3, pp. 26–28

<sup>15</sup> C E Shannon - *A Mathematical Theory of Communication*. In: *Bell System Technical Journal*. Volume 27, No. 3, 1948, pp. 379-423 <https://ieeexplore.ieee.org/document/6773024>

the thermal behavior of Open systems, unnoticed by physicists. What can we say about the entropy in such a system? The entropy change of an Open system is the sum of the introduced entropy change and the internal entropy change minus the released entropy.

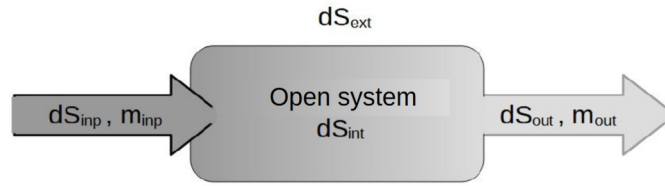


Figure 2: Model of an Open system

The difference between the entropy change that has flowed in and the entropy change that has been released we summarize the external entropy change. Then we can write: (see Fig.2)

$$dS_{system} = dS_{inp} + dS_{int} - dS_{out} = dS_{ext} + dS_{int} \quad (2)$$

For this, Ilya Prigogine received the Nobel Prize in Chemistry in 1977<sup>16)</sup>, because he was able to explain why a higher order can arise in Open systems under certain external conditions, because although  $dS_{int} \geq 0$  is, is  $dS_{ext}$  arbitrary. Thus, you can distinguish three cases in the Open system model:

**Creation – The order in the open system is established.**

More entropy is removed from the system than is generated internally.

$$dS_{ext} < 0, \quad dS_{int} < |dS_{ext}| \rightarrow dS_{system} < 0$$

**preservation – It is a dynamic steady state is reached.**

$$dS_{ext} < 0, \quad dS_{int} = |dS_{ext}| \rightarrow dS_{system} = 0$$

**destruction – The Order in the Open System decays.**

There is an internal and an external reason for this:

a) Less entropy is removed from the system than is generated internally.

$$dS_{ext} < 0, \quad dS_{int} > |dS_{ext}| \rightarrow dS_{system} > 0$$

b) The external entropy is larger than the internal one. The internal entropy cannot be removed.

$$dS_{ext} > 0, \quad dS_{int} < dS_{ext} \rightarrow dS_{system} > 0$$

The ancient cultures were right in their worship of the sun as the Creator god. The realization that creative processes take place on the Sun has not yet dawned on the builders of nuclear fusion plants. They think of the Sun as a closed thermodynamic system, like a furnace filled with fuel that only needs to be ignited.

But the Sun is floating in a stream of hydrogen, the most common element in the cosmos, and various other gases, as can be seen from the spectra of countless galaxies. The Sun is an Open system and fusion is an act of creation. Since the first experiments with the Russian Tokamak principle, the plasma has only been heated to higher temperatures in the hope that fusion would then occur. With increasing energy supply only the temperature increases but the disorder remains. You should understand that with the increase in the temperature of the plasma, its entropy in the closed system does not

<sup>16</sup>I. Prigogine – *Time, Structure and Fluctuations*; Nobel Lecture, December 8, 1977 ; <https://www.nobelprize.org/uploads/2018/06/prigogine-lecture.pdf> (accessed on February 20, 2023)

decrease and that this entropy must be removed so that protons can fuse with electrons to form larger atomic nuclei, and this does not happen in the interior of the Sun, but at the boundary between the solar corona and the chromosphere, where the extreme drop in temperature of several orders of magnitude occurs, because there entropy is reduced in the absence of electrons as a result of the positive.

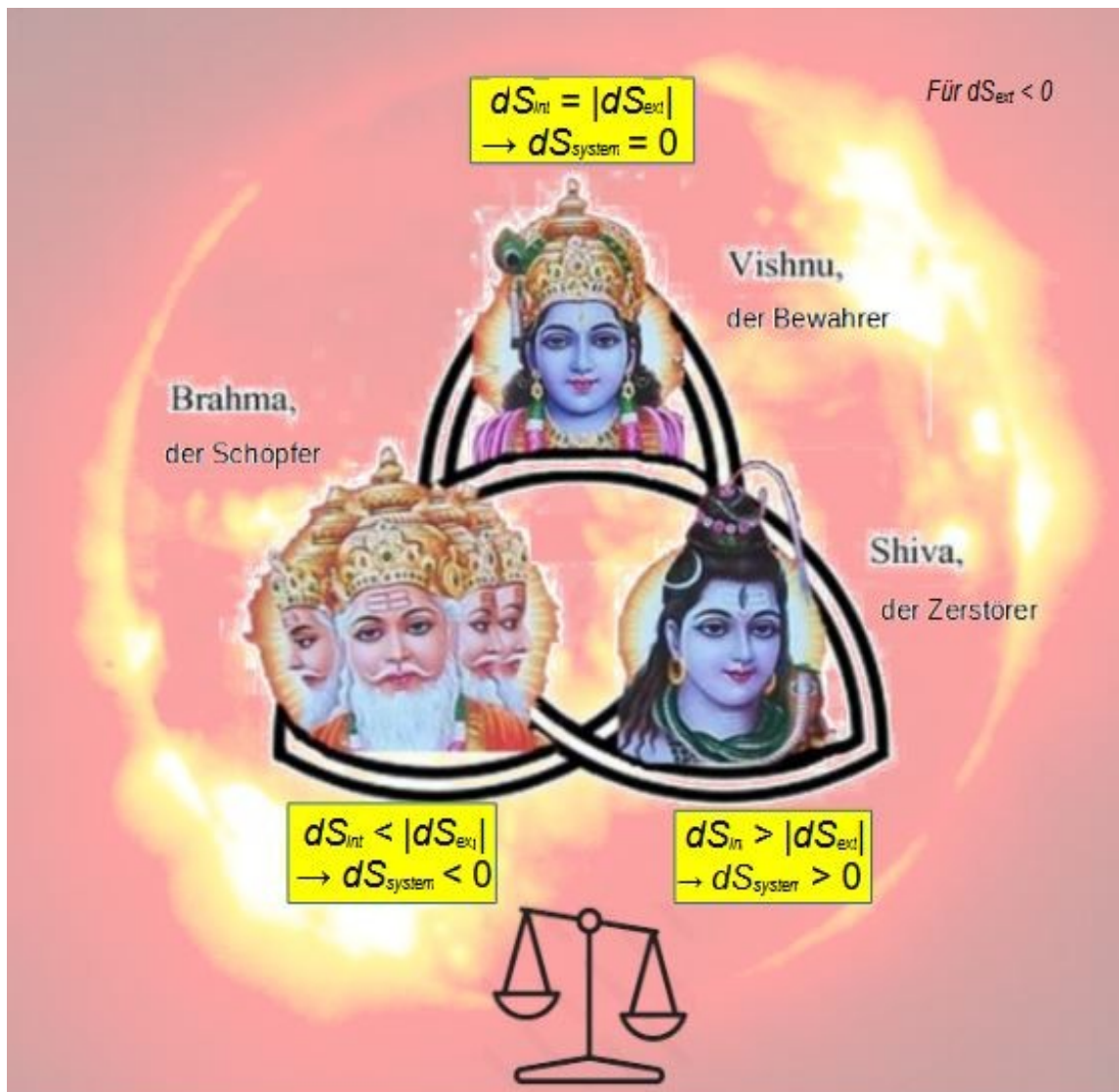


Figure 3: Reflection of Thermodynamics in Indian Philosophy

The faster electrons are first slowed down in the denser photosphere and then fed back into the freshly formed ions to build up the electron shell. The fused material then collects inside the Sun .

Only the SAFIRE experiment under the direction of the Canadian Engineer Montgomery Childs<sup>17</sup> ) has so far been able to successfully recreate the function of an externally electrically controlled Sun in the laboratory according to the theory of thermodynamics of Open systems. After the experiment was completed, a number of condensed elements were detected on the anode that were not previously present in the reactor chamber. The entropy discharged in the form of radiation is the solar spectrum from which earthly nature draws. In this respect, a believer can understand nature as having divine origins and therefore it should be given more respect and reverence instead of mercilessly exploiting it

<sup>17</sup> M. Childs – The SAFIRE Project; <https://aureon.ca/>

until it becomes unbalanced . is our paradise and cannot be replaced by any space technology, even if some techies with a lot of money may dream of it.

The personification of deities often seduces people with narcissistic personality disorder to try to gain power by stealth and play God, although their "divine work" in their human limitations was usually the result of a war . Cleaning up the pieces was not their business. Therefore, it is wise for a society to limit the power of rulers for a certain period of time. This is the advantage of democratic societies. Unfortunately, fewer and fewer people, especially the younger generation, understand this. Now that we know that the creation of the world is just the opposite of a Big Bang and probably lasted longer than 7 days, we can also recognize that Creation, as Darwin already recognized, is an evolutionary process without plan and external organization, and this also applies to inanimate nature. The beginning of something new is at the same time the end of something old. It is therefore pointless for physics to speculate about a primordial beginning or about the number of Big Bangs.

The challenge of the 21st century will be to generate less entropy and to design and implement an energetically viable concept for the continued existence of our civilization , because if we continue as before, the earth's economically viable resources will be exhausted in the next generations if we leave less and less space for earthly nature. Climate change seems to be only the harbinger of this development towards the destruction of our livelihoods in wars. to be the last natural treasures .