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Construction of our Reality and Myths

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Abstract

We are currently thinking about how to describe the structure of the global corona crisis. In terms of synergy, this crisis is obviously an instability in the social system that has led to the spread of the virus and the related shutdown of the most important economies in the world and all public life. This development is associated with great efforts, especially by the industrialized countries, to reduce the economic consequences of these drastic changes, in the economy, in our lives, in the way we move in public spaces and in human relationships. But all of this is connected with the emergence and expansion of new communication options as well as new stories, narratives and fakes. It is the hour of birth of new myths! In this context, it seems appropriate to us to take excerpts from our work on the origins of the myths of the technical revolution and to make them accessible to a wider public. In the following we will refer to our lecture "Structure Formation by Social Reflection – Myths and Reality" which we gave at the Frolov conference in Moscow at the Institute for Philosophy of the Russian Academy of Sciences in Nov. 2018 [1]. This lecture is also published in German in the Internet magazine of the Leibniz Sozietät der Wissenschaften zu Berlin e.V. [2].

Keywords: Synergy; Myths; Behavior; Primeval Artisans; Fictitious Processes; Neanderthals; Social Behavior.

Structure of the Work

Well, people's social systems are determined by work. However human society may have been structured or is structured today, the way we work, that is how people deal with their environment, we can understand as the respective "archetype" of what we have thought or are concerned about. The work is not only the individual activity of a single individual, but also not only the collective, rectified behavior in the sense of a joint swinging of the hammers. Individual and cooperative activity only becomes work through communication in the sense that a fictitious image of this activity is formed in the community of all those involved. The thinking of the individual as well as language in any form is a prerequisite for this. Hence, we understand work as the activity together with the process of its representation by means of thought and language, i.e. creating a fictional process that runs in our minds.

Historical Evidence

In his essay „Woher wir kommen" ("Where we come from"), science journalist Stefan Klein reports in ZEITmagazin 39/2016, pp. 18-27, about the inter-generational research of Leakey and his group in Kenya on the family tree of mankind [3,4]. At Lake Turkana in Kenya they found human fossils such as the "flat-faced" "Kenyanthropus platyops", the age of which could be dated to around 3.5 million years. Sonia Harmand and Jens Lewis found a whole "workplace" in the immediate vicinity of people who lived there 3.3 million years ago [5].

Following Stefan Klein, they concluded:

"In order to produce such tools, the primeval artisans needed above all a "spatial imagination (italics emphasized by the authors) to hew the stones in the correct form. And they needed guidance, because nobody can find the right way on their own. The early toolmakers must have been able to learn from each other. Traces on the archaeological finds reveal that they were neither weapons nor meat knives. They were used to crack nuts, cut up tubers, and expose insects in tree trunks. If the Flat Face had created the tools, this would explain how these prehistoric people were able to assert themselves in their environment without a strong set of teeth: for which other hominids such as the Nutcracker [living at the same time; the authors] had to use their teeth, they did it with tools and intelligence. So there have been two different solutions to the same problem for millions of years - power and mind. So, it took a while, but finally the intelligence prevailed. In the long term, creatures that rely on spirit instead of violence had an advantage."

Translated from German: „Um solche Werkzeuge herzustellen, benötigten die urzeitlichen Handwerker vor allem ein räumliches

Vorstellungsvermögen (kursive Hervorhebungen durch die Verfasser), um die Steine in der richtigen Form zu behauen. Und sie brauchten Anleitung, denn auf sich allein gestellt findet niemand den richtigen Weg. Die vorzeitlichen Werkzeugmacher mussten imstande gewesen sein, voneinander zu lernen. Spuren an den Fundstücken verraten, dass diese weder Waffen noch Fleischmesser waren. Sie dienten dazu, Nüsse zu knacken, Pflanzenknollen zu zerteilen, Insekten in Baumstämmen freizulegen. Sollte das Flachgesicht die Werkzeuge erschaffen haben, würde das erklären, wie sich diese Vormenschen ohne starkes Gebiss in ihrer Umwelt behaupten konnten: Wozu andere Hominiden wie der [gleichzeitig lebende – Anm. d. Verf.] Nussknackermensch ihre Zähne einsetzen mussten, das erledigten sie mit Werkzeugen und Intelligenz. So, gab es während Millionen von Jahren zwei unterschiedliche Lösungen für dasselbe Problem – Kraft und Verstand. Es dauerte also, doch schließlich setzte sich die Intelligenz durch. Auf lange Sicht waren Geschöpfe, die auf Geist statt auf Gewalt setzten, im Vorteil." [3,5], Klein (2016): S. 25-26,

What Stefan Klein describes here as spatial imagination and guidance for mutual learning is a good example of what we call the fictional process. Such a fictitious process is suitable as a guide and thus changes our environment, as does work itself. This continuous work process is "infinitely" continuable and changes the environment through work, it always creates new fictitious processes as its images and thus changes constantly itself. It creates our reality! The processes of science or technology are very illustrative and well-known examples. The world that is changed in this way, our reality, of course, has a great impact on our further thinking and our communication with it, as with people in their respective social structures. These perpetual, infinite processes are based on the well-known circular causality (cyclical causality) of synergetic [6], which has historically led to much controversy about the priority of the objective reality or the subjective reality (the thinking), when cyclical causality was not yet recognized in its full strength. Of course, both the objective process and the fictional process - thinking or communication - are each based on a material process; we have to admit both of them an objective reality of their own, just as the television picture (computer screen) has an objective reality as well as the image recording in the camera and the processes of communication between these two devices. We refer to fractal structure formation processes in video feedback processes [1,2].

Thinking is based on a material process that we understand as brain activity. But each process can be assigned a structure that we grasp conceptually. The formation and change of these structures are the fictitious process, the thinking. As it is known, people can use speech, pictures, sculptures or writing in order to express their thinking in material symbolic systems creating a "real picture" of the fictional process, in order to make it understandable by terms. These concepts, which become external to the individual (and which they have divested), can then be grasped in a new way by other individuals. The concepts and ideas become a new reality of people through their material representation (manifestation) outside of the individual itself. This does not only have to be done with the tools, their manufacture and usage, but it can also be done by creating art, e.g. through amulets, jewelry, clothing, hair, drawings, body painting, carving, sculptures, music, songs, dance, language, wordplays, rhymes, poems etc.

All of this serves the human communication. In our opinion, art is not something what you make, but what you do not need to survive, as it is accepted in the popular belief, but rather a separate form of communication that has developed alongside the manufacture and use of tools and verbal languages. While developing aesthetic categories, art is necessary for the mutual, direct understanding of people. It serves sexual communication (algebraic aspect), the determination of group membership (topological aspect) and hierarchical communication (structural order aspect). It is essential for people's lives! Human development cannot be understood without art.

For example, Dirk Hoffmann from the Max Planck Institute for Evolutionary Anthropology in Leipzig and Alice Pike (University of Southampton) were able to determine the age of the drawings of the Neanderthals in the Pasiega cave of Monte Castillo in northern Spain (Figure 1a) [7]. They estimated the drawings age of at least 64,000 years using the method of uranium-thorium dating [8]. The oldest drawings of Homo sapiens are therefore approximately 20,000 years younger than the cave drawings of the Neanderthals. The earliest use of Homo sapiens of ocher colors and the associated tools was found around 75,000 years ago in Blombos Cave in Cape Agulhas, South Africa, several thousand kilometers away. Pierced conch shells of the same age were also found there. Hoffman and Pike also analyzed the artifacts of the Neanderthals discovered by the Portuguese paleontologist João Zilhão [7]: pierced and painted shells, which he discovered among other things in a cave in southern Spain in 2008 (Figure 1b) [7]. They concluded that the processed seashells were at least 115,000 years old [10].

Stefan Klein writes in his essay "Hunting, Collecting, Painting" (ZEITmagazin 26/2018, pp. 16 - 25):

"< The result was a shock for us! > Zilhão told me on the phone. Since this makes the Spanish shells the first known pieces of jewelry (emphasis by the author). Even the Neanderthals made things that they did not need to survive. And apparently, such handicrafts had long preceded the art of cave painting. Until then, colored snail shells were the oldest jewelry that appeared in the South African Blombos Cave a good decade ago and were almost certainly manufactured by Homo sapiens 75,000 years ago. If two different types of people left jewelry on both sides of the earth, and moreover at intervals of 40,000 years, then this is certainly no accident. On the other hand, it was impossible for them to have copied their handicrafts from each other. After all, whole Africa

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lies between the localities, and the Homo sapiens should have reached Europe much later. Both types of people started making jewelry independently of each other. Long before the artifacts that were found arose, creative talents must have slumbered in people. After all, both the Neanderthals and Homo sapiens had the mental flexibility to make jewelry. However, since the two species were separate, they most likely inherited this ability from a common ancestor who lived in Africa before the Neanderthals' ancestors moved to Europe. That was at least 500,000 years ago. Even these ancestors probably had a brain that was powerful enough to think in symbols."

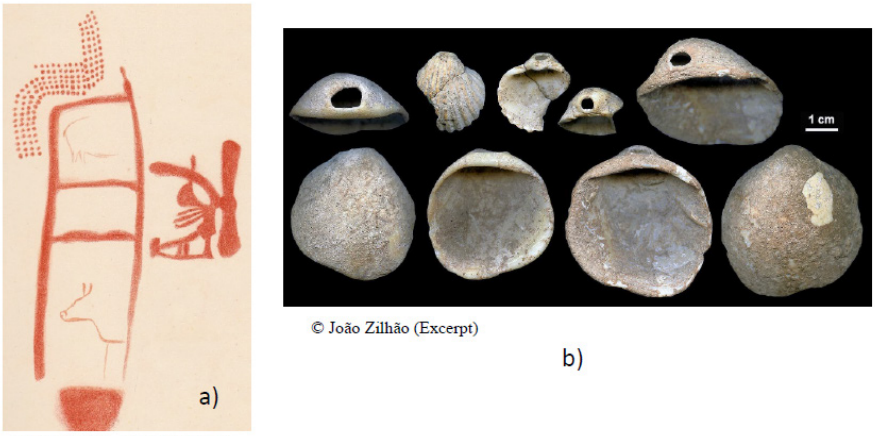

Figure 1: Cave drawing and shell jewelry of the Neanderthals [7,9].
a) Enlargement of a drawing, at least 64,000 years old, in the Pasiega cave of Monte Castillo in northern Spain, which is a kind of ladder with half animal pictures in between.
b) Perforated and colored seashells from the southern Spanish cave Cueva de los Aviones, which were used about 115,000 years ago.

Translated from German: „ »Das Ergebnis war für uns wie ein Schock« erzählte mir Zilhão am Telefon. Denn damit sind die spanischen Muscheln die ersten bekannten Schmuckstücke (Hervorhebung durch die Verfasser) überhaupt. Schon die Neandertaler fertigten Dinge an, die sie zum Überleben nicht brauchten. Und offenbar ging solches Kunsthandwerk der Kunst der Höhlenmalerei lange voraus. Bis dahin galten eingefärbte Schneckenhäuser als ältester Schmuck, die vor gut einem Jahrzehnt in der südafrikanischen Blombos-Höhle aufgetaucht sind und fast sicher vom Homo sapiens hergestellt wurden, vor 75 000 Jahren.

Wenn zwei verschiedene Menschenarten auf beiden Seiten der Erde und noch dazu im Zeitabstand von 40 000 Jahren Schmuck hinterließen, ist das sicher kein Zufall. Andererseits konnten sich die einen von den anderen unmöglich ihr Kunsthandwerk abgeschaut haben. Zwischen den Fundorten liegt schließlich ganz Afrika, und der Homo sapiens sollte Europa ja erst viel später erreichen. Beide Menscharten begannen also unabhängig voneinander, Schmuck herzustellen.

Schon sehr lange bevor die nun gefundenen Artefakte entstanden, müssen kreative Talente im Menschen geschlummert haben. Schließlich verfügten sowohl der Neandertaler als auch Homo sapiens über die geistige Beweglichkeit zur Herstellung von Schmuck. Da beide Arten aber voneinander getrennt waren, erbten sie diese Fähigkeit sehr wahrscheinlich von einem gemeinsamen Vorfahren, der in Afrika lebte, bevor die Vorfahren der Neandertaler nach Europa auszogen. Das war vor mindestens 500 000 Jahren. Schon diese Ahnen verfügten also wohl über ein Gehirn, das leistungsfähig genug war, um in Symbolen zu denken." (Klein 2018: 22-23).

The process of reality

In this way we have two aspects of reality, the structures of which we can examine and compare (Figure 2):

i. The objective, material world – the world of "things" including our actions, and

ii. The subjective, but also material world – the world of concepts (e.g. mathematics, philosophy, religion, art, poetry, narrative, music, the natural and technical sciences, the social sciences). It is the emptied image of the not yet understood concepts of the fictional process.

All of these are infinite social processes analogous to those of image capture and image reproduction, or – as one could also say – of reflection and re-reflection. Both of them are feedback processes based on human activity which in the past have often

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been described as physical and intellectual work. However, we know from the optical feedback process that such processes rarely run to a stable fixed point, i.e. to a stable structure. Often, slight parameter variations can transfer even the attractive processes – which run onto stable structures – into unstable situations. In a world that is constantly changing as a result of human work, our objective, material reality and our images of it (imaginations, ideas, fictions, concepts – subjective reality) would change constantly, and with it our way of dealing with them, i.e. how we act. It is rarely possible, that we can speak of a constant reality or a stable idea of it that is unchanging over time. Even if the objective reality and our ideas from it seem to move to an apparently stable structure (situation) for a certain time, this situation will very likely change again, e.g. "disintegrate" in a fractal manner, and only essential, elementary substructures will "outlast" the time.

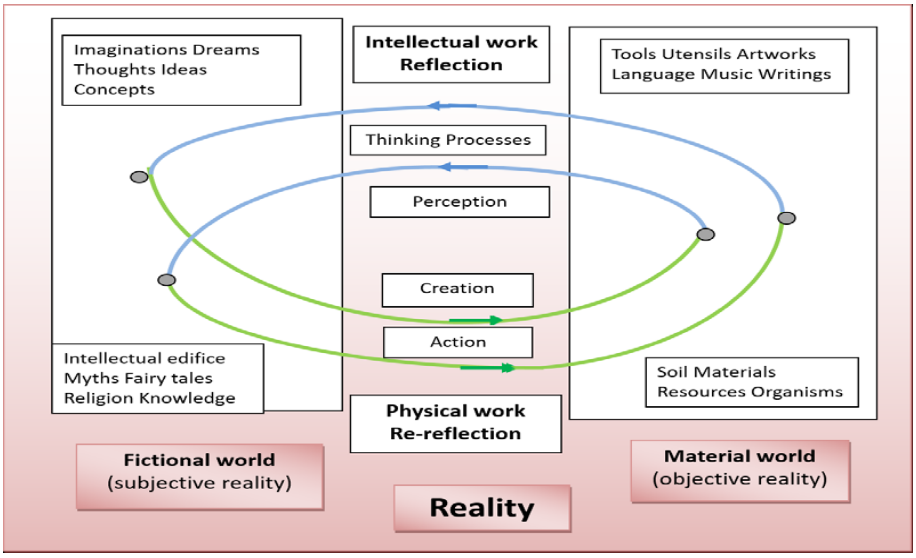

Figure 2: Principle sketch of the different aspects of the process of reality: material and fictional world and the processes of reflecting and re-reflecting between the two through work. Reality is understood as a social process, which is outlined here by circulating on the edge of a Möbius strip.

Some Remarks on Fairy Tale Gods and Science

This applies to both, scientific and technical concepts as well as to religious or generally ideological ideas. To illustrate this, let us consider in the following an example that has its origin in the structure of human society (social structure). Already in the Stone Age, the complex social relationships are recorded and condensed into logics of higher order [11]. But in order to manage society, it was necessary to translate these logics through generally understandable (and by all members comprehensible) stories. Today we would say that suitable narratives are needed to be able to achieve political objectives. Narratives are politically appropriate stories - they can also be fictitious! Myths or fairies, however, are representations based on meaningful events. Of course, they can also appear in a "reduced" form as fairy tales or narratives in order to be accessible to a wide audience. In all cases, however, they depict a subjective social reality, in the sense of the ongoing process of social reflection. It is therefore not surprising that the current picture, which we draw from the original event, often has little to do with its origin. It usually takes meticulous, detective work to extract this archetype from the current fairy tale. When it comes to the development of the worlds of the gods, however, we encounter an interesting phenomenon: They too have a material, but subjective reality, especially the concepts of becoming, healing and creation, on which the social concept of power, including the exercise of power, is based. In a long process, as in art, the material character of the fictional structure was identified with objective structures: trees, animals and statues; even real people, became gods or demigods. It took a long time before one could understand the abstract concept of God – e.g. "In the beginning was the word"[12] (Bible) – and thus the linguistic (it also has a material aspect) structure of the concept as the actual, subjective reality of God.

In this development, the concept of God(s) repeatedly served as a new "archetype" that was grasped and socially reflected. It is indubitable that the idea of God's is socially very powerful, so that many believers think that God or the gods are revealed in the social behavior of people. It seems to us, however, that this conceptual development has almost reached a fixed point in the process of reflection or mapping, or at least an almost stable state. This also applies to many scientific statements or laws. They describe an objective, material reality and the "laws" themselves are only a fictional reality. Today, however, they find materialization in mathematics or in computers, which allows them to determine their internal structure and also to check their "truth" in relation

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to the corresponding material, objective reality. But all of these laws themselves belong to the realm of the "fictional". But where is the difference between the concept of God and the "divine laws"? Is it the "miracle" that is attributed to it, or is it the question of its existence or even its "omnipotence"?

Every idea, including the idea of a god, corresponds to a biochemical process in our head, i.e. a material structure that can also be stored. If one would attribute to an idea an existence independent of its material structure, a reality outside of the individual, this would be a recourse to earlier stages of the formation of this very concept. A miracle that only a God can perform should be derived from the building of ideas, from the structure of this concept of God - and only from this. This is exactly what we demand from science, which often means that we have to expand our scientific conceptual system. For science, we therefore demand that the two concept formation processes of experiment and thought do not at least end up in a fixed point or stationary state. But what about science? Long-lasting, graphic symbol systems have developed over the millennia, feeding from a variety of sources, including, for example, hieroglyphs, letters and numbers, with which it became possible to communicate not only directly from person to person but in addition through indirect communication mediated by durable material symbols. This significantly increased the communication options. However, it also made it possible to graphically depict relationships between our terms on the basis of semiotics: to link written language and mathematics with objective, material reality and thus to grasp their structures. In addition, it was now possible to expand the system of concepts itself by working with interpretable symbols. In this way, a conceptual system (mathematics, logic, philosophy) was developed, which became applicable to more and more areas of reality. The more one abstracted from the original meaning of the symbols, the more suitable they were for describing completely different situations and problems.

In this way, these highly abstract symbol systems can also be used to examine the structure of these symbol systems themselves. Both, the work on the symbol systems (subjective material reality) and the work of applying the terms to new fields of the objective material reality leads to a change in the terms (fictional processes) as well as in the symbol systems (e.g. creation of integral symbolism) and also in the objective material reality. From the point of view of our recording-reproduction process (e.g. video feedback processes), the parameters of the recording and the reproduction change constantly and thus ensure the necessary instability of the reality-creating process in science, which constantly generates new images or insights.

Outlook

Finally, it should be mentioned that, based on our central approach to understand reality as a process according to Figure 1 and in connection with the study on the stability of differently strong networked systems [13-15], we intend to develop a mathematical description of highly networked social systems, whereby networking is not only realized through the exchange of goods but also through cultural exchange. We will be able to discuss this together in due course.

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