

Possibilianism On The Basis Of Phenomenology And Psychology

Kullervo Rainio

Emeritus professor, Helsinki University,
Department of Social Psychology, Faculty of Social Sciences,
Box 54, 00014 University of Helsinki, Finland

ABSTRACT

This article is based on Kant's transcendental idealism and the phenomenological conception of ontology. It specifies the basic concepts needed to describe possibilianism. The basic axiom is: *All possible states of affairs exist – either as potentialities or as actualized (become real) in the interpreted world.* Only what is logically contradictory is impossible. All processes are assumed to be stochastic. Potential states of affairs are transcendental, we do not have knowledge of them as such (*an sich*), but a certain probability, $p(E)$, for them of existing as possibilities is assumed. The actualization of a possibility in the interpreted world takes place conditionally, and the probability that this condition is fulfilled is $p(C)$. $p(E)$ multiplied by $p(C)$ indicates the probability for a state of affairs to be actualized (at a given time). Human beings are able, by their acts (choices) to influence $p(C)$, i.e. favorability of the conditions for a state of affairs to become real, and thus guide the actualization of possibilities in the interpreted world in the form of perceived material world or representations or thoughts. Hence, they can function as “co-creators”. Culture plays here a central role. The last chapter examines the impact of possibilianism on science and on human world view. Possibilianism does not refute scientific findings, but it could bring radical changes to the world view based on them.

Key words: becoming real, co-creator, consciousness, culture, existence, interpreted world, ontology, possibility, probability of becoming real, probability of existence, transcendental

ACKNOWLEDGEMENT

Special thanks to professor (emeritus) Klaus Helkama for translating the article, originally written in Finnish. I also want to extend my thanks to two members of The Finnish Society for Natural Philosophy, Mr. Heikki Mäntylä, M.Sc (Eng.) and Mr. Tuomo Suntola, Doctor of Technology, for fruitful discussions.

Note, In the text, “becoming real” and “actualization” have been used as synonyms.

INTRODUCTION

In the United States, a rather heated debate on *possibilianism* has been going on for a few years. The neurophysiologist David Eagleman has, together with his friend Robbie Parrish, given the name to this new way of thinking and attempted a preliminary definition of it. Eagleman is the foremost representative of this trend but, as brain researcher, a fairly outspoken physicalist. However, he has not hesitated to adopt a view of reality that goes far beyond the limits of mainstream science - and therefore got vigorous criticism. Up to now, the debate has had a theological focus. The few congresses with possibilianism as one of the topics have dealt with the philosophy of religion, which amounts to treating possibilianism as just one innovation among dozens of theological “isms”. This is apt to lead discussion away from the proper task of examination of possibilianism, viz., to show the necessity of changing the paradigm of ontology and science.

The key idea of possibilianism is that existence of any occurrence, phenomenon, event, or process (entity) cannot be denied just because there is no evidence of it. Thus far, the mainstream scientific thinking has maintained that only that can be accepted as “reality” on which there is “evidence”, observations or support from strictly inferred observations – nothing else. Certainly, since Immanuel Kant we have had to admit that we cannot know the “really existing” (“das Ding an sich”) but what we regard as existing is *the world interpreted by us*. In practice, however, this fact is often omitted and our *description* of reality is treated – in physics in particular – as if it were as such “objective reality”.

The crux of the matter is the following: If an event that is *possible* according to a (given) theory does not occur in our experimental data, could we argue that it does not exist? Of course not. It could appear among the findings of a subsequent, equivalent experiment.

Single events, phenomena, processes on which do not have observational evidence, could nevertheless appear in our world and do, thus, exist (potentially) at present as possibilities.

Certainly philosophical arguments for the existence of possibilities have been advanced before. Plato’s world of ideas of concepts and the potential, as opposed to the perceived world already refer to a kind of “possibilianism”. However, Plato’s “world of ideas” in a way suggests that ideas could be conceived as representation-like base models of occurrences and thus belonging to the interpreted world, i.e., they ought to be regarded as some sort of knowledge in the form of representation.

Anaxagoras, the Ancient philosopher who walked off the beaten track, had an interesting ontological standpoint: “Sense perception could not, according to Anaxagoras, give rise to a correct representation of reality”, writes Tuomo Suntola (2012, p. 193). “Impersonal deity, *nous (intelligence)* has created the visible world out of eternal, infinite material mass”. It may not be misguided to interpret Anaxagoras arguing that the world of which we have a representation in the form of perceptions, the “visible” world, is something different from the “eternal, infinite material mass” (of which we do not have visible knowledge but which nevertheless exists as “eternal”). The difference between the potential and the real in Anaxagoras’ view is surprisingly clear.

In the late Middle Ages the relation of possibilities to the intellect of God was discussed: Could possibilities exist without the intellect of God? According to Thomas Aquinas “the system of possibilities is formed in the mind of God” (Knuuttila 1996, p. 19). Duns Scotus and William of Ockham argued that “necessary and possible truths are what they are independent of the existence of God” (Knuuttila, 1996, p. 20).

From amidst of this speculation, Knuuttila has made an interesting finding: “Some of the Scotists who were contemporaries of Descartes were possibilists. Unlike Scotus they thought that possible entities possess *a kind of weak mode of existence*, albeit not belonging to existing things” (Knuuttila, 1996, p. 20, italics K.R.).

It is natural that since Newton’s time approximately, as the deterministic world view became more and more dominant, existence was attributed to only what there was evidence for, what was “verified” (observed or directly inferred from observations).

A notable exception was Alexius Meinong (1858-1920), whose philosophical conception of existence is a precursor of possibilianism. He posited three different forms of existence: a) existence, b) subsistence, and c) givenness. – Material, observable things exist, abstract things and merely imagined ones (mathematical entities, fairy-tale creatures) do not exist but they could subsist – a bit simplified: they can be imagined but not observed. Givenness, too, is existence, but minimal; all entities are at least given. – The first two categories could be regarded as such forms of existence that occur in the *interpreted* world. The third category is interesting: it could be interpreted as referring to potential existence that remains beyond our description, in other words, outside the interpreted world. (More exactly, the potential is that part of “the given”, which remains beyond the existing and/or subsisting. – Meinong’s conception of reality is clearly incompatible with the materialistic view, so it is easy to understand that it failed to achieve a dominant position in his days.

This article attempts to set forth the more exact conceptual machinery required by possibilianism and construct a dynamic system of *potentiality becoming real* (uninterpreted reality becoming interpreted). A leading idea is the contingency of all existence: For each state of affairs there is one or more alternatives. *Happening* is stochastic, i.e. selection of alternatives, determined by probabilities.

This exposition is thus based on the principle of *stochasticity* of processes. Deterministic description is not the opposite of an indeterministic one, but determinism is a special case of a probabilistic account where all probabilities are one or zero. It is not reasonable to build the entire description of knowledge on that narrower frame of reference but it makes sense to base the account on that larger frame of reference in which the narrow one is a special case.

Chapter 2 deals briefly with the ontological phenomenological frame of reference, which underlies the examination that follows. Chapter 3 sets forth the basis of possibilianism, the necessary definitions, and its basic axiom. What is novel in particular is the stochastic model of a possibility’s becoming real in the interpreted world. This examination shows the limited nature of the physicalistic world view and the central role of the processes of the human consciousness (culture and technology specifically) in the unfolding of the interpreted world. Chapter 4 examines the conception of reality created by possibilianism from the viewpoint of human values.

EPISTEMOLOGICAL FOUNDATION: ON THE INTERPRETED AND UNINTERPRETED WORLD

Description and reality as such

Our knowledge of reality is always description of it. *Of reality as such* (an sich) we do not have knowledge *independently of description*. Reality that is independent of our description *could exist*, but if we get knowledge on it, that knowledge is no more independent of our description, because all that knowledge of ours is now part of our description. – Often it has been argued that a mathematical description of the primary qualities of an object would contain knowledge of “really existing”, of the entity as such (das Ding an sich).

Meillassoux, for instance, writes:” *...all those properties of the object that can be formulated in mathematical terms can be meaningfully conceived as properties of the object itself* “ (Meillassoux, 2012, p. 3; italics in the original). However, later he takes an altogether different stand; he denies his own argument in writing: “Consequently, the mathematical properties of the object cannot be exempted from the subjectivation that is the precondition for secondary properties” (p. 4). And further. “We cannot represent the ‘in itself’ without it becoming ‘for us’.”

Subjectivity of description

All individuals have their own *subjective description* of reality. It has been shaped by their perceptions, ways of gestalt formation and thinking (even by their world views and the theories they have used).

That the reality perceived by us is description and not reality as such, independent of us, can be demonstrated by a few examples that show how> our way of conceiving is unavoidably involved in all our perception.

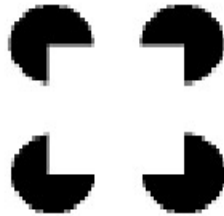
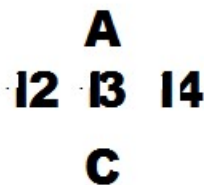


Figure 2.1

Example #1) In Figure 2.1, the incomplete circles have “given birth” to or “created” a square, but *not out of material* - not by adding or taking material away. In our interpreted world, the square inevitably *exists*, although not as a material object – if the incomplete circles are removed, it exists no more. Our way of conceiving brings the square so strongly into existence that one cannot help seeing it, as hard as we try to do so.

Figure 2.2 - B or 13 ?



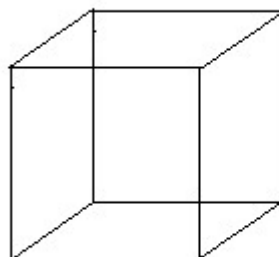
Example #2) Figure 2.2 illustrates a second basic phenomenon of our interpreted world: the gestalts what we form are wholes. The sign in the middle of the figure could be interpreted as number 13 or letter B, depending on the whole the part of which it is conceived. As part of the vertical column the sign in the middle is B, as part of horizontal row it is, however, B. The interpreted world is always a whole and what exists could exist only as a part of this whole.

The subjective description of an individual does change with time – and the changes could be either long-term or short-term ones. Developmental psychology can tell us a great deal on these changes.

An interpretation could change in a moment, “in a twinkling of an eye”. *Reversible figures* are an example.

Example #3) Figure 2.3 shows the so called Necker's cube; it is a reversible figure, too. – Is the line ab on the front side or on the back side of the transparent cube shown in the figure? We see that when the cube is examined, so to speak, from above, ab is on the front side, whereas when examined from below, it is on the back side, but *not both simultaneously*.

In the many experiments on the perception of Necker's cube (Figure 2.3) it has been found that people are able to learn to reverse their perception more and more quickly. – Note: Perceiving Necker's figure as a *cube* is in itself the result of a strong event of gestalt-form. We fail to notice that the pattern of lines "in fact" is two-dimensional.



a b
Figure 2.3 Necker's cube

The gestalt-forming in the perceptual world is not limited to "strange figures" that are drawn in psychological laboratories but is always present in all perception. As a matter of fact, what is provided to an observer could be a set of alternative interpretations – in the same way as we may see, in the clouds, an infinite number of fantastic forms. – Why do we nevertheless feel that we see a given object as always the same – and moreover, people living in the same culture agree about it? The reason is to be found in the *familiarity* with the objects. We have *learned* to recognize a ladle as a ladle and neglected the other possibilities, i.e., every time we see a ladle, the *probability* of interpreting the occurrence as a ladle increases following laws of learning, until it reaches the approximate value 1.

It could also be said that in our daily, routinized life we have *unlearned* a huge number of alternative interpretations for occurrences. Nevertheless, each landscape, each rose bush, each face, each facial expression, each song, flute melody, thunder of an orchestra, patter of rain, each light touch of a hand provides an abundant richness of alternative interpretations. They are possible. They exist. Possibilianism could be said to make available for a human being the inexhaustible richness of this world.

The intersubjective interpreted world

Communication enables us to find those properties of the interpreted worlds of community members that are accepted by all of them together. Those properties constitute the *intersubjective interpreted world* or a shared description of reality.

The scientific community often calls its shared interpreted world "*objective*" or "*observer-independent*" reality, and commits here an epistemological error.

Individual descriptions of reality, being subjective, are always different from one another, but also the intersubjective interpreted reality is different in different communities. There is no justification for arguing that one description of reality is closer to "reality" than another. No truth-likeness can be defined, let alone measured, because there cannot be any knowledge of "real" reality, reality as such.

The basic idea of Immanuel Kant's philosophy that we do not have knowledge of "*things as such*" (*das Ding an sich*) relates expressly to knowledge. Of course/certainly there are other kinds of criteria of the superiority of description: logical cogency, simplicity of theories ("mathematical beauty"), extension and coverage of description, etc.

The pragmatic criterion of truth

If an individual *succeeds* when acting according to a certain description but worse when using other descriptions, it is reasonable to prefer the first description to the others as a tool for acting in practice. However, there is no certainty that it would describe reality in all aspects "correctly".

A map and the observed terrain it depicts are *both* part of our interpreted reality. Description of perceived environment may be plentiful, structured in many ways, but it is no more "reality as such" than is a map. Although a map contains fewer details, it could, according to the pragmatic criterion, be better than the whole terrain, immediately perceived, if it for instance decreases the likelihood of going astray.

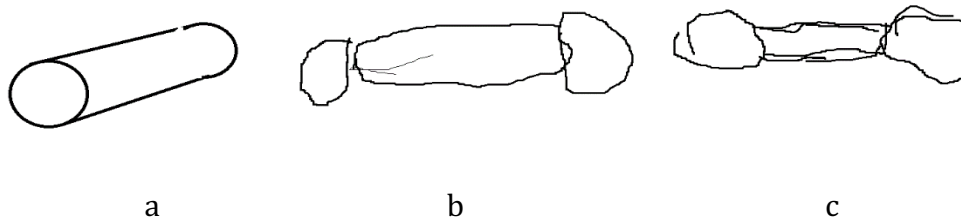
This epistemological examination aimed at removing whatever still remains of *naïve realism* and *physicalism* in our thinking, in order to make adoption of probabilianism possible. – As this "philosophy of the possibilities" has been regarded in the debates as a "possibility-faith" rather than a serious ontology, our next task is to define exactly the central concepts of possibilianism and analyze its structure and dynamics (categories of existence and the process of becoming real).

THE DEFINITIONS AND THE BASIC AXIOM OF POSSIBILIANISM

Possible and impossible states of affairs

States of affairs are either possible or impossible. Impossible states of affairs are those which, in our descriptions, are logically contradictory. Other states of affairs are possible.

It should be noted that even logic (as well as the mathematics used in our description) is part of our *description*. In it, logically contradictory states of affairs could, within the logic of a different description, be non-contradictory and thus possible.



Figures 3.1a, 3.1b and 3.1c

For instance, we could argue that it is impossible to see simultaneously the two circles at the ends of a (non-transparent) a cylinder from a given direction (Figure 3.1 a). However, developmental psychology¹ demonstrates that children at the ages 3 -5 quite commonly draw this kind of cylinder as shown in Figures 3.1b and 3.1c. For them, the long cylinder *and* both of its circular ends *exist* (they have become real in their interpreted world). Something would be missing if you did not draw them both; certainly a cylinder does have two ends – who would

deny it! – A child's description of reality is based on experiential *knowledge* of the cylinder as a whole and not limited to a picture seen from one single perspective. The logic is in accordance with that.

Impossibility is, then, relative, dependent on the logic on which the whole description is built. Absolutely impossible would be such states of affairs that are impossible in all descriptions, in all interpretations of the world. It is something we could not think of within the frame of any of our descriptions,

The basic axiom

The basic axiom of possibilianism: All possible states of affairs (whatever the number of them might be) exist – as either potentialities or as being real in an interpreted world.

The measure of existence is the probability $p(E(A,T))$ or the probability that a state of affairs A exists in a time step T, in which T refers to a time interval from $t(n)$ to $t(n+1)$.

Note that there is no reason to stick to the dichotomy: Certainly (A) Exists or Certainly (A) Does Not Exist. It would amount to the assumption that the above probability of existence could only be 1 or 0. This kind of restriction is not reasonable. Thus, we think that existence is contingent, for a state of affairs there is always at least one alternative, i.e., no state of affairs A (on a given time interval) could exist certainly, because then non-A would be impossible, and as non-A contains everything else besides A, then only A would be possible. It means that only an indeterminist description is usable in the philosophy of the possible.

The position opposite to possibilianism's basic axiom is still part of the paradigm of science in the form of the so-called null hypothesis. According to the null-hypothesis still dominant in science at present, nothing exists unless there is evidence of it, i.e., unless it has been verified (in a scientifically acceptable way).

The following example attempts to solve this deep ontological controversy in a maximally illustrative manner.

Ontology of the solar system:

Until March 13, 1781, astronomy "knew" that the solar system consisted of the sun, the moon, and five planets. Nothing else existed in the solar system. On that day William Herschel found the evidence of a sixth planet when he followed with his telescope a star that moved on its orbit like other planets. It got the name Uranus. From that moment on, the number of existing planets has been 6, before there were 5 of them. Herschel had created into the world one planet that, according to the null-hypothesis, did not exist before!

Nothing else existed in the solar system – until Herschel reported that he had seen through his telescope two moons (subsequently named Titania and Oberon) revolving around Uranus. Thus, according to the evidence, what existed was the sun, 3 moons, and 6 planets! So Herschel should be regarded as a notable *creator*.

But this was not enough. In 1821, anomalies were observed in the orbit of Uranus, and in 1893, based on them, J.C. Adams made calculations seeming to suggest *as if there were* in the universe a 7th planet (but it did not exist, for lack of "evidence"). In the same year, J.G. Galle, quite a creator, he too, saw through his telescope the new planet (Neptune), and now there was evidence and as many as 7 planets did exist.

However, it is questionable whether C. Tombaugh is a creator. He systematically investigated a large collection of photos of stars and came across a picture taken September 19th 1915, where he spotted the 8th planet (called Pluto). Who was now the creator? The person who took the photo and unintentionally gave existence to Pluto, or Tombaugh who spelled it out?

Conclusion:

everything that was stated above shows that it is an error to attribute existence only to such things of which there is so called evidence. By 1781 all 8 planets (including Pluto, which according to the latest fashion is not a planet but a plutoid) as well as tens of moons and numerous asteroids *did exist*, even though they had *not become real in an interpreted world*. With regard to the interpreted world they – according to what possibilianism argues – existed as *possibilities*.

The search of evidence, performed correctly according to the null hypothesis, does then disclose whether an occurrence *has become real in our interpreted world, not whether it exists*.

How possible states of affairs become real

Ontology of a “miracle”

How do we react to phenomena whose probability is low but which are possible, in a word, to “miracles”?

I was driving on a highway when a car whose register plate had the letters ICH flitted past me. Just as I had pointed out to my passenger that all what we needed was BIN, another car swished past – and its register plate said: BIN! – This case could with good reason be called a *miracle*. But that’s not all. A little later in a crossing I saw two cars side by side, one with UST, the other with URT. To my astonishment, my companions did not share my enthusiasm, as I whooped and told them of the obvious miracle. It turned out that they had not heard of the desert near the Caspian Sea.

These events are miracles, because their probabilities are extremely low but nevertheless higher than zero. They are *possible* and thus potentially existing.

But another, very important point is that in each case the probability of occurrence for the miracle is *conditional*: they can occur only if certain conditions (circumstances) are fulfilled. In the first case one of the many necessary conditions is that the event is perceived by someone and this someone knows at least elementary German. *If this condition is not met, no miracle happens*.

When introducing the basic axiom we posited the measure for existence: The possibility has a certain *probability* of existence (or, according to Meinong: of being “given”) at a certain period of time T, symbolically $p(E(A), T)$. Now let us examine the measure of the probability that the state of affairs A will become real in an interpreted world: $p(R(A), T)$.

Possible states of affairs *become real or appear* (within a given period of time) when the condition of favourable circumstances for A becomes real simultaneously (within the same period of time) with A’s existence becoming real. The condition or the circumstances required for the possibility to become real, becomes real within the time period T with the probability $p(C_A, T)$. (The symbol, C_A , refers to circumstances that are the condition for A.)

The probability for a possible state of affairs becoming real within the period of time T is thus $p(R(A), T) = p(E(A), T) \times p(C_A, T)$.

The definition of the favourableness of circumstances

The circumstances are *favourable* when the conditional probability for a possibility to become real $p(R,T)$ is high, and *unfavourable* when it is low.

Let us examine what this means in terms of possibilianism. We assume that there exists a possibility A (of which we know nothing), i.e. $p(E(A,T)) > 0$. If now the observer finds him/herself “in the right place in the right time”, “equipped with the right tools”, the probability that phenomenon F appears or becomes real in place X in the interpreted world of the observer is very high.

“Right tools” is a broad concept. It includes, first, technology: For instance, in the well-known double-slit experiment, we need a film, i.e., a certain type of detector that displays hits and, moreover, a certain type of radiation that is directed to the detector, as well as a wall and two slits. But we need also a certain scientific disposition to give a theoretically based explanation to the phenomenon that appears (it shows itself as the ability to name the phenomenon – for instance, in the double-slit experiment, absorption of an electron or photon).

Later on, we shall treat this as *culture* in a broad sense of the word. (If in our example the observer happens to be a cleaner not familiar with physics, he/she may perceive the spots on the film as dirt blotches to be wiped out. The interpreted world is really subjective!)

History of science provides an infinity of examples of what “in the right place in the right time, equipped with the right tools” means for the “creation” of our interpreted world (and of a scientific description of the world in particular). – When the attempt was made to obtain evidence of Einstein’s theory of refraction of light by investigating the apparent shift of the position of stars during the eclipse of the sun in Africa, “the right time” and “the right place” were essential. But when Higg’s boson was verified as being real in our interpreted world in Cern, “the right tools” were, besides being enormously expensive specimens of human ingenuity as technological instruments, also products of centuries, even millenia of human cultural evolution. Time, place, and “right tools” are sometimes minimal: Albert Einstein’s “tools” consisted “only” of his cognitive world and occasionally, we are told, also a bunch of old envelopes to make calculations on.

“Right tools” have thus, for the sake of clarity, to be complemented by “right cognitive tools”. At the same time it must be noted that neither time nor place play any role in the case of becoming real in the world of imagination and fantasy (which belongs to the interpreted reality, too). Only cognitive tools matter.

Factors that influence the favourableness of circumstances for possibilities to become real

The favourableness/unfavourableness of becoming real could be produced either by non-intentional natural events i.e., material processes, or by instinctive activities of living organisms or their conscious goal-directed actions.

Culture

Human activity that aims to increase the favourableness of positively valued states of affairs – and correspondingly the unfavourableness of negatively valued ones – could be called *culture*, and in their cultural activities human beings are, within the limits of their opportunities, *creative*, constructive “co-creators”. The destructive activity – if it is conscious – could be called *anticulture*.

Culture is not restricted to the so called higher culture but is continually manifested even in the most mundane tiny events – in all our strivings to make our goals real – in action, fantasy or thinking.

For instance a step that a child takes when learning to walk is building favourable circumstances

for the possibility to become real that balance is kept in taking the step and after. It is no slight matter: it presupposes in the consciousness of the child a kind of simulation of the future event, arousing attention, readiness to perform a complex series of muscular activities, readiness of correct the mistakes associated with them as soon as they are perceived, decision to start the motor “programme” and complete it up to the new state of balance. – An adult, routine walker performs all this unconsciously, but as soon as there is a deviation from the routine – when a puddle is met – a more or less conscious preparation and planning becomes involved. – An analogous chain of preparation, simulation, decision, and performance – presupposed by the becoming real of possibilities – can be seen in the performances of athletes in competition, e.g. manner in the gestural language of a jumper or thrower.

The distance from everyday pursuits, children’s steps and athletes’ performances, to higher culture, Einstein’s theories, Bach’s compositions, Picasso’s paintings or the discovery of Higgs’ boson, seems to be enormous. However, they are located on the same dimension of “creativity”. Toddlers make their steps real, Nobel prize winners their bosons.

What a huge chain of real-becomings of possibilities – as well as cooperation of real-makers and tools – has been needed in order to produce favourable circumstances for the appearance of Higgs’ boson in our interpreted world: real-becoming in consciousness into physical and quantum physical theories and models, ingenious empirical methods to verify them, ever-new tools, economic sacrifices, and finally the “Babel’s tower” of our time, Cern, with all of its research tools – and thinkers. All this only because a possibility that became real in Higgs’ consciousness, would become real – due to small statistical deviation.

Technology

is manifested in the process of possibilities becoming real as two forms of creative action:

- a) as intentional, goal-directed: creating favourable circumstances for making real, in the perceived (material) world, the possibilities that correspond to the models already existing in consciousness and
- b) as unintentional, “play” without a goal, i.e., changing circumstances in a way to make likely that some, so far unknown, possibilities might become real.

Case a is exemplified by all sorts of instruments, machines etc., designed for a certain *purpose*.

Case b is intriguing. As the basis of playful creative activity we can readily imagine behavior engendered by curiosity and made possible by “free time”, not tied to any goal. To take a speculative example: A stone age archer could pick the string of his bow, which always gives the sound of the same pitch, while another bow gives another one. “What might come of this”, the archer asks himself and (perhaps) hits upon the idea of picking several strings of bows in turn, to accompany his primitive song – and finally joins several strings of different length into one bow. The harp is born! It is born, although such *was not the purpose!*

“Forces of nature” and favourableness of becoming real

From a scientific point of view we understand here “forces of nature” as causal agents in the changes of energy states of material occurrences. From a possibilianistic point of view a force of nature causes a process whose unnoticeable beginning is often a change in the probability of becoming real of a possibility. The change could be a small one, but in practice sufficient to become real. It is now crucial that this possibility, by becoming real, changes to a greater extent than previously the probabilities of new possibilities to become real, etc. A *chain* of even larger changes is born.

Note that – unlike culture and technology – the forces of nature are manifested as *events*, not actions. No *intentions* are associated with changes, they do not have a goal. They bring authentic, perfect *randomness* to the world. – What kind of possibilities become real in the chain also determines the kind of world that is reached at the end-point of chain and a certain kind of energy equilibrium has been established after the “upheaval”.

Developmental psychology (see Werner, 1926) shows that *personification* of happening, the tendency to see all happening as actions, is characteristic of *primitive thinking*. – Seeing a big stone on a meadow, a child asks *who* has hurled it there. (Of course a gigantic ogre who hated church bells and tried to hit the bell tower with the boulder.) The ancient mythology is full of these *makers* and the world is *made* in every detail – in later mythology: made by the “Creator”.

If somebody believes that the world of the modern human being is entirely different and “scientific”, let him/her think closely of use of language. It is – even in science – full of expressions that personify natural happenings. A lightning *strikes*, a storm *fells* trees, the wind *blows* – in old maps chubby-cheeked blowers are even pictured .

Language will long guarantee that our world is kept juicy – and does not become a fruit squeezed empty – as it is seen by the materialist–reductionist mainstream philosophy of nature, without intention, without goals, without purpose.

Possibilianism, which shows the human being, if not as a creator, so at least as a “co-creator” or “assistant creator”, is apt to fill the world with juice, again and again.

The structure of the interpreted world and chains of becoming real

An observable (material) event is not the only form of the manifestation of a possibility. *The manifestation as a mental representation is to be regarded as one form of a possibility becoming real*. This can be justified by the psychology of perception and developmental psychology in particular, which show that a clear-cut boundary between imagination and perception cannot always be drawn.

Children, for instance, in their play “see” as cows those objects that adults call cones. They may also report talking with a friend of theirs, even talk to this friend in their plays, and describe the looks and character of the friend, although such a friend does not exist, according to the firm belief of the adults.

Adults make in general a clear distinction between what is “true” and what is imagined, but in fact every perception contains “theory” - in a broad sense. When we perceive a certain occurrence as “a tree”, we adopt a representation that corresponds to the concept of a tree, and if it fits as the model for the occurrence, we “see” it as a tree. (This usually takes place so quickly in an adult’s perceptual activity that we do not notice these intermediate phases.)

We could yet distinguish in the world of imagination a particular *fantasy world*, in case the imagination is not intentional but aimless “play”: imagination is let to “fly” freely.

The birth of a possibility to existence or becoming “given”

When we use the stochastic mode of representation to describe processes, a couple philosophically interesting questions arise: a) *when* is a possibility “born” to existence, does - in Meinong’s terms - become “given” and b) could a possibility fail to be “born” to existence? - Similar questions could be raised with regard to becoming real.

That the questions might seem odd relates to the use of the measure of probability. We are accustomed to dichotomous language: for instance an entity either (certainly) exists or (certainly) does not - we do not think of other alternatives in a context like this.

In practice perception and interpretation of probabilities are different from what would be “reasonable” to think, and display a great deal of situational variation. - If a scientist argues that the probability of a terrorist attack in Europe in the coming year is “very low”, 0.1, many people conclude that it is then not going to happen at all. - If the weather forecast says that the probability of rain tomorrow is 50% (or 0.50), many people think that tomorrow, then, it is “surely” going to rain, even though the day could “as well” be dry. - People who played roulette had reportedly a common belief that if the ball had stopped on black 10 times in succession, you should play red, because “now it must be red”.

In quantum physics the oddity just mentioned is commonplace. The quantum process is indeterministic. It means that the process will be selected into one of the alternative states according to their probabilities *as if “nature” drew lots*. You cannot ask why exactly this or that state became selected. You can only metaphorically say: *the lot fell on it* in the “lottery held by nature”, of which we do not have knowledge - and which is, then, “das Ding an sich”.

In the same way as in a lottery someone who only buys one ticket could win the main prize while another who has bought dozens of tickets could get nothing, *any possibility could be born to existence at any moment* (because its probability is > 0).

Provided we think that the age of the world of possibilities is not infinite, any possibility could *fail to be born* to existence.

The same principle concerns also the becoming real of a possibility. It could take place at any moment, but also fail to take place altogether.

Chaining of existence:

The probability $p(\text{Poss}(x))$ or the probability of the possibility of existence of x could be conditional in such a way that the condition is another possibility y , whose probability of existence is $p(\text{Poss}(y))$. In that case $p(\text{Poss}(x))$ has to be presented in the form: $p(\text{Poss}(x); \text{Poss}(y))$.

For instance thickenings of energy or matter in our universe could be such conditions of potentiality: Let x =Pluto, y =concentration of matter in some places in the future solar system. In that case, the possibility of Pluto is to be conceived as conditional: $p(\text{Poss}(x); \text{Poss}(y))$.

Chaining of becoming real:

The *becoming real* of the possibility P could take place “by chance” or “miraculously” if circumstances are sufficiently favourable, but it could be preceded by a necessary *chain of*

becomings-real, i.e., a certain series of becomings real of possibilities up to the point where circumstances are favourable enough for P to appear.

The structure of the chain of becoming real is as follows:

In favourable circumstances C1, in the consciousness of an individual the possibility I1 (representation or simulation of a process) becomes real. This alters circumstances C2 to be more favourable for the possibility I2 appearing (e.g., a new representation). At some point, the individual could behave according to a plan. In favourable circumstances C1, in the consciousness of an individual the possibility I1 (representation or simulation of a process) becomes real. This alters circumstances C2 to be more favourable for the possibility I2 appearing (e.g., a new representation). At some point, the individual could behave according to plan produced as the representation, whereupon some R1 in the perceived reality alters the circumstances for the possibility Ix becoming real, etc., until stepwise the circumstances Cy are sufficiently favourable (=the probability for the fulfilment of conditions for Cy becoming real is high enough), and Iy becomes real.

The human goal-directness shows during/in the chain in that human beings *are able* in their consciousness *to abandon* (reject) representations that appear and in that way to *direct the chain toward the set goal*.

The chain does not nearly always involve goal-directness but a miraculous outcome may result from millennia of experimenting, almost “playful” activity within technological culture. At the end of the chain a totally unforeseen radical change in the interpreted world could become real.

Bottoms of bottles and Pluto

What was the chain of the technological culture that eventually made Pluto become real in the cosmos, the “creation” of Pluto? Using some imagination, we could illustrate a chain of possibilities that became real, extending over thousands of years, with final outcomes that were not foreseeable in the least.

The ancient “wise men from the East” constructed even more and more accurate instruments for taking sight and measuring which enabled them to determine the locations of stars visible to the naked eye and among them distinguish 5 moving stars which we call planets. – Yet just a minimal part of the possibilities became real.

Historians often fail to notice the earliest and most intriguing moments in which something important is born. – You may ask then who were those glassblowers who after a hard working day turned their empty wine bottles up and down and happened to watch, through the bottom of the bottle, the world that seemed entirely different from that seen with the naked eye – and this time it was not due to the contents of the bottle but its bottom.

Presumably some of them hit upon the idea of experimenting for fun with novel forms of glass that made what was seen now larger, now smaller. Who was the person who eventually got the idea of starting to make wholly regular magnifying lenses? Someone who played with those lenses happened to place them in a single row with suitable intervals and invented the binoculars, another invented the microscope. Nobody needed such things but they just came into being – and soon you got really big binoculars, telescopes.

What you needed to accompany a telescope was just accurate instruments to direct it, and soon afterwards you got as far as to “create” rings and moons for Saturn, moons for Jupiter, and even new planets – Uranus and Neptun - and later on even Pluto. A chain of favourable

circumstances, originated from the bottoms of bottles had led to their becoming real – step by step, without nobody being able to say where you were going.

Human being, “favourite of fortune” or “architect of one’s own fortune”?

In terms of possibilianism the course of what happens is not “a dance of elementary particles” without meaning. Big or small potential possibilities come into being and – possibly – become real in the interpreted world of human beings. The lot of a human being in this process of “creation” seems to be either to throw oneself upon the mercy of circumstances, in the hope that “fate is kind”, or struggle body and soul for improving the conditions of succeeding in one’s life - in a word, to be the “architect of one’s fortune”. Of course, there exists an intermediate form of life: do one’s best and expect a moderate “favour of fortune”.

It is psychologically interesting to note that human beings have over thousands of years more or less consistently followed possibilianistic thinking without knowing it. When the ancient Greeks felt they were left at the mercy of natural events, of a storm during a voyage, of starvation when drought took the crops etc., they developed means for influencing their “luck with lotteries”, that “lottery conducted by nature” that was mentioned before. Three Fates (Moirae) made their appearance in Greek mythology, of whom one, Lachesis, had as her task to “attend to the thread of a human being’s life”, i.e., to “allot” the fulfilment of possibilities. Her favour was particularly important to find when the chances of fulfilment seemed slight. How did it happen? – In the same way as among human by bribery. It was called sacrifice. It was believed that copious sacrifice would win Lachesis’ favour and she would let the lot fall on the desired alternative, so to speak.

What are lotteries, Lotto, betting, so popular now? Nothing but a new kind of sacrifice to Lachesis – by paying for a lot the buyer bribes the Fate to draw lots to fall on him or her. Science does not accept the possibility to influence the outcome of the lottery (if it has been performed technically correctly and honestly). Science does not recognize any “luck with lotteries”, but in practice you’ll find a sufficient number of individuals who have retained that belief. Lachesis is alive!

Fortune

When is a person “fortunate”, when does (s)he feel that “Fortune favours” (her-/himself or somebody to whom (s)he would grant it)? – In possibilianistic terms: “Fortune favours you” when the probability of the becoming real (actualization of the preferred alternative is low (the circumstances are unfavourable) and yet it becomes true, i.e., it is the outcome in the “lottery performed by nature”. Correspondingly: when the probability of a non-preferred alternative is high but the “lottery” determines that it is not actualized, “fortune favours you”.

It is gratuitous to ask how nature does its “lottery”. This question has remained unanswered in quantum mechanics and belongs – perhaps forever – in Kantian terms, to the sphere of “das Ding an sich”, the outside of our interpreted world.

Human beings are “architects of their own fortune” to the extent they strive to build favourable circumstances to increase the probability of actualization of the possibilities that they aim at. They can neglect this, believing they are “favourites of fortune” for whom life is like a lottery: you may win or lose, nothing is to be done about your fate! Let Lachesis help you!

“Per aspera ad astra” is an apt characterization of a life course filled with persistence and goal-orientation, greatly admired in the so called Protestant culture.

The other extremity, a gallery of adventurers consists of a more varied and colourful lot. There are pool players, gamblers, those living hand-to-mouth, but also – more active – daredevils and risk-takers, from among whom owners or bosses of big companies may emerge, as well as spectacularly fallen bankruptcy-makers.

Behaviour called "normal" in actualizing your possibilities falls in between these extremities: steady, moderate striving and moderate risk-taking, cautious hope of fortune, a little of excitement – if not else, so playfully in the miniature world of games.

THE PHILOSOPHY OF POSSIBILITIES AND WORLD VIEW

Possibilianism and science

A first reaction to possibilianism might easily lead to such a conclusion that "anything goes" – anything could do as truth, and the scientific findings become questionable. This is a big misunderstanding. The scientific findings – and theories for the most part as well – remain unchanged. They are properties of our interpreted world according to our description – and possibilianism does not deny them. The enormous achievements of science retain the same high value as before.

Some epistemologically oriented philosophers have attempted to get rid of the chains of Kantianism by elaborating the concept "*verisimilitude*". It should be measured in terms of a kind of correlation between the interpreted and the objective, Meillassoux (2006), for one, seems to think in this way when speaking of "correlationism". This is odd, for we lack that knowledge of the objective to which the interpreted should be compared. We only have the pragmatic criterion: if we *succeed* in producing, according to some principle, favourable conditions of the actualization of a possibility, we could expect that following the same principle, we shall succeed in future, too. We accumulate "post hoc knowledge" in the use of a given principle (theory). It is knowledge on the practicability of our *own* interpretative activity, on those means by which we are able to make the wanted state of affairs appear, not on the absolute "really existing".

The *explanations* of the findings and theories of science may change – and do change. The background philosophy and ontology of science, beliefs about existence, and the epistemology of science and the question of the boundaries of our knowledge – all this is subject to change. The changes brought about by Kantian transcendental idealism and phenomenology have been radical but remained half-finished. Science still fails to understand the crucial significance of the description itself in the shaping of our interpreted world. "Scientific knowledge" is always "objective", independent of the observer – and as such, of course eternally unchanged - these assumptions are still held to.

However, a radical change takes place in ontology, in the understanding of existence. This change could also have its impact on both the methods of science and explanations it gives. The actualization of a possibility in the interpreted world is an act whose elaboration into a theory makes the currently prevailing physicalistic world view fall back. The *material processes* in the interpreted world – whether deterministic or indeterministic (in quantum physics) – are not sufficient for describing happening. Each occurrence in the interpreted world involves namely a knowledge component ("perception is theory-laden"), i.e., the occurrence is conceived as a structured part of a gestalt totality. Every interpretation is a psychological process and when the actualization of possibilities is understood as exactly appearing in the interpreted world, psychological regularities cannot be ignored in theory. The concept of "spirituality" has been banned in the science based on physicalism. Now we face the necessity of attitude change.

"Possibilities" could be very broad wholes indeed while chains of actualization could involve interesting invariances. Thus the description of "beingness" cannot, by any means, be restricted to physics (not even to the "Theory of Everything") but history and - more broadly - humanistic sciences enter in a novel way as important components into the scientific analysis of the processes of actualization of possibilities.

On certainty

Possibilianism could raise the question: Why does a human being nevertheless regard many things as totally certain?

Description, *forming the gestalt* of the interpreted world, is always simplification, in everyday thinking in particular. One form of simplification is to interpret the probability p , whose *approximate value* is 1, as expressing full certainty. Correspondingly, a "miracle", an occurrence whose probability is very low, the approximate value of 0, is simplified and said to be impossible.

The position of a human being in the world and the meaningfulness and value of life

Whatever the advances in logic and conceptual analysis along the road of philosophy, "the general public" expects answers to many "ultimate questions" - for instance: what is creation, what is the purpose of life, what is meaningful life, what is death, etc. Does possibilianism, too, have an answer to this kind of questions?

It does - often even a novel, fresh answer. In what follows an attempt is made to outline some answers. They are rather speculative, but that is part of the spirit of a possibilianist examination. In the acquisition of knowledge the chain:

spec - hyp - emp

is operative, in other words, speculation could invite you to advance hypotheses and the hypotheses kindle empirical research to test them.

What is creation?

Whitehead says in his diary that God gives *meanings* to the world. If we give this a loose interpretation and for God substitute the transcendental, potential world of possibilities, Whitehead's idea could be transformed into the form that a possibility, becoming real, gets its meaning at the same time. Surely, the perception, representation, or thought that is gestalted and differentiated then, always gets some meaning, otherwise it wouldn't become interpreted. - When a possibility becomes real in the interpreted world, *it comes to be "created" as an occurrence that has a meaning.* - Pluto did not exist in the interpreted world in the moment that two pictures that depicted the sky very precisely had been taken, no, it existed when a comparison of those two pictures showed that one of those luminous points had moved and got thus its *meaning* as a planet.

Human consciousness participates in creation firstly by producing by its acts favourable circumstances for the actualization of a possibility and secondly by linking the occurrence that became real to its description as a structured gestalt and at the same time as part of the total gestalt, i.e. by giving the occurrence a meaning. The human being is from the standpoint of the interpreted world a "co-creator",

Is artificial intelligence able to create something?

No. Artificial intelligence is not able to produce meanings of occurrences. Its function (with regard to everything) is solely *syntactical*. It is like a non-Chinese person in Searle's well-known "Chinese room" who receives an English word from one slot, finds in the stock of words

the slip of paper with the corresponding Chinese word and passes it further through another slot – and has thus “translated” English into Chinese, although she does not know a word of Chinese. – *The computer programme of the artificial intelligence may be an auxiliary tool* in the actualization of a possibility, but only the action of the programmer is intentional and could in a goal-directed way increase or decrease the *favourability* of actualization of a desired alternative.

Technology, like forces of nature, may cause something (start a process of happening moving). It could “alone” – without an actor but in that case only by chance – non-intentionally, change the favourability of actualization of some possibilities.

What is death?

What is essential in death is that the dying individual ceases to have the possibility to communicate with other people and the *tools* of consciousness (the brain and the rest of the organism) lose their functioning capacity. If we go so far as to assume that also the existence of consciousness ceases (which is by no means empirically verifiable and far from certain), it could be concluded that death has ended the possibilities of an individual to still influence the favourability of actualizations and thereby participation in “creation”.

But what happens to those possibilities, potential things, the actualization of which now remains unfinished? Where could they have disappeared? They do exist as before, just waiting for favourable circumstances to be actualized. Is it important that it is exactly me, my consciousness, helps them actualizing? (It would be odd to think that others can do nothing.) – The feeling that you have to “give the game up” is to be sure very frustrating in our egocentric culture, but it is a comforting thought that death puts an end to that frustration, too.

Those possibilities whose actualization I had regarded as important, haven’t vanished anywhere. My afterlife is in them. It is not important that the person who makes them become true feels that (s)he once was me.

Eino Kaila, in one of his lectures in the 1940s, once remarked in passing – as far as I remember: “As far as reincarnation goes, we should ask whether it matters that the individual who is my reincarnation remembers being me and is exactly like me. Wouldn’t it be more desirable that he is a bit better individual than I. Wouldn’t it be desirable that he is a lot better. I am reborn every moment in some child.”

But you may understand those people, too, who believe that their conscious selves after death rest as some kind of “bundles of possibilities” in the transcendental eternity.

Meaning of life

If we think in the manner of physicalism that everything that *is*, is the dance of elementary particles, then there is nothing that would give meaning to events. Nothing would become interpreted, there would not be a single interpreted world. Of course it cannot be denied that there would be possibilities, but no one to actualize them. Only the transcendent would exist, that of which there cannot be knowledge. There would be neither knowledge nor knower.

When the purpose of something (e.g. of life) is inquired, it is to be noted that only *actions*, not *events*, could have a purpose.

What the forces of nature cause have no purpose or intention. The purpose of a storm is not to fell trees (nor is the intention of the trees to fall). They just fall in the storm. It *happens* that

they fall. (Nevertheless, a primitive individual personifies forces of nature, too: an evil spirit torments you by storm, God punishes sinners by stroke of lightning.)

Happening means that in a process an alternative becomes *selected*. *Action* is *choice* among alternatives. In happening, it is as if “a lottery ticket” determined a target among a set of alternatives, but in performing an action, the actor, the subject, has in addition the possibility to *accept* or *reject* the target that became selected – and after the rejection, an opportunity to let the selection happen anew, and again reject or accept it, etc. When the subject has made the decision to accept an alternative, a *choice* has taken place. – A choice is the first step in an action. (An action involves, as a consequence of a choice, additionally motor or cognitive activity and sometimes an entire chain of such activities.)

When we observe the behaviour of organisms such as human beings, we strive above all to find out the goal, intention, or purpose of actions (movements, gestures, speeches).

We call *meaningful* those actions that we perceive as increasing the favourability of actualization of a desired/expected possibility or as decreasing it in case of a non-desired possibility..

Even among the most primitive forms of life an external observer sees – at least looks for, expects to see – meaningfulness. When a seed of a plant germinates, seed leaves grow, the stem and the leaves grow and buds appear and unfold to flowers which engender seeds, we well understand the meaningfulness of all this: a seed (or a “plant-self” – whatever it might be) seems to try to reach a goal, seems to be intentional. Are we to postulate, then, consciousness for a plant (“the soul of a seed” or “a spirit of a flower” etc.)? – This possibility does exist, but as far as we lack the capacity in our description to accurately analyze consciousness and its properties, we also lack the capacity to solve this problem through our research. (A physicalist - like Patricia Churchland – protests: consciousness *does not exist*, it is an illusion. – A phenomenalist – like Lauri Rauhala – strikes back: How is a physicalist able to verify this, if she does not have consciousness?)

From a possibilianistic point of view a propitious soil and climate and environment in general increase the probability that the possibility of a seed to survive and germinate will become true, that the “lottery ticket” will fall on the germination alternative, not on the non-germination. When germination is actualized, the probability for the actualization of the possibility that the stem and the leaves will grow increases, etc. When this chain of actualization of possibilities is successful in each phase it leads to the birth of new seeds. Every phase is – to an observer – *meaningful*, albeit not intentional.

In its meaningfulness, life is radically different from the processes caused by the *forces of nature*.

Should we nevertheless attribute, in addition to meaningfulness, consciousness to plants and other forms of life we regard as elementary? No – if we regard intentional, authentic *choice* among alternatives as a hallmark of consciousness. Observations on the behaviour of higher mammals seem however to suggest occurrence of clear signs of a certain degree of consciousness - i.e., choice.

From the viewpoint of possibilianism each life is a unique, extremely rich and varied stream of actualization attempts and actualizations of possibilities, unpredictable, full of surprises. For a human being who is able to retain the curiosity inherent in childhood throughout the entire life, it is continually a treasury of miracles.

The purpose of human life is to produce – using a person’s own choices – favourable circumstances in the real world for the actualization of those possibilities (s)he *believes* to be “truly” valuable/worthy – confirmed by her or his entire emotional life.

The human being has good reasons to see a “creator” also in another human being. Destroying the other would be destroying a whole world .

The purpose of the human life is to be a “co-creator”. This solemn term does not pertain only to the representatives of the so-called higher culture, great scientists, praised masters of art or geniuses in general. No, it pertains to everybody, to a playing child who “creates” out of cones and sticks a wonderful mansion, to a young boy who conjures a train out of empty matchboxes and cotton reels. It pertains to everybody who hums a tune, cracks a joke, decorates a room, to a mother to whose smile a baby responds with a smile. The humblest act that opens a possibility is “creation” – it brings something new to some interpreted world.

The history of science and significant inventions brings up also a peculiarity of “creation”. Those discoveries have not always taken place exclusively in big universities and institutes, accompanied by big money. Often they took place in the solitary workshop of an Edison, when a Franklin was flying the kite in a meadow in a thunderstorm, some minor agent in a patent office making calculations, using an old envelope for note-taking, a Newton contemplating beneath an apple tree the miracle of an apple falling down. – It seems that there exists a particular kind of cosmic humour that is apt to amuse us time to time, by making from small things big ones, from tiny events epoch-making ones.

Literature:

Eagleman, D.(2009): Stray questions for David Eagleman. *New York Times*, July 10, 2009.

Enqvist, Kari (1998): *Olemisen porteilla (At the gates of being)*. WSOY, Juva.

Knuuttila, Simo (1996): *Descartesin käsitys välttämättömyydestä ja mahdollisuudesta (Descartes’ view on necessity and possibility)*, niin& näin 4/1996

Meillassoux, Quentin (2006): *Après la finitude*, Editions du Seuil, Paris (English translation by Ray Brassier, Bloomsbury Academic, 2012).

Rainio, Kullervo (2008): *Discrete Process Model for Quantum and Mind Systems*. University of Helsinki, Department of Social Psychology, Research Reports 1/2008.

Textor, Mark : *States of Affairs*, Stanford Encyclopedia of Philosophy, 2016

Werner, Heinz (1926): *Einführung in die Entwicklungspsychologie*, J.E. Barth, 1926.