

Logical-Mathematical Arguments in The Function of Proving The Premise: Everyone Who is Born Does Not Necessarily Have to Die**Prof. Dr Miroslav KUKA^{1,2}**¹Faculty of Education, Universiti, St. Kliment Ohridski in Bitola, North Macedonia²Academy for Educational and Medical Studies in Krusevac, Republic of Serbia***Corresponding Author**

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ABSTRACT

The research represents a systematic cognitive process about those phenomena we were a little knowledgeable about the facts_of the research, and which results help us to resolve various questions from the social practice. The quantitative approach in research is characterized by the presentation of the facts by using the numbers, while the qualitative research describes the facts by words. In this paper, we shall try to answer the one of the ancient questions from the social practice by the instruments of qualitative and quantitative comparative analyses, and logical-mathematical reasoning. Considering the fact that the human thinking is the subject to logic (common sense) and the truth about the events is the subject to mathematics, we shall try to correct logical thinking from the level of mathematics, in order to make the correct reasoning. Namely, genetic mutation refers to changes in the sequence of nucleotides in DNA, which permanently retain and transmit to the next generation of cells. As the outcome of genetic mutations, after a certain number of repetitions (births), a child will be born with an animal hair, two heads, three legs, four kidneys, more hands, a tail, etc. Therefore, the human body, after a certain number of reproductions (births), deviates in some cases, in relation to the largest number of identical repetitions, which we can call the “anatomical archetype”. The question is, is it possible by establishing of some critical mass of repetitions (births), with a sufficient number of carried out mutations, to expect with an absolute certainty and without exception, the birth of an immortal individual.

Keywords: *Research, Premise, Arguments, Anatomy, Mutations, Critical Mass, Theorem, Immortality*

INTRODUCTION

Science deals with reality, discovering and explaining objective laws. Objective laws mean a relatively stable causal (causal-consequential) relation between the phenomena. Getting knowledge about the legality of causal relations leads to scientific laws. Causal relations can be of a functional and stochastic character. Phenomena (occurrences) are **functionally** linked when one of them, always and without exception, causes the other one. **Stochastic connectivity** is looser. It is connectivity with the exceptions. Social phenomena (occurrences) are more variable than the natural phenomena (occurrences) and are most often stochastically connected. In the introductory part of this paper, we shall present some of the criteria of the truthfulness of the individual statements, which the author elaborated in his scientific work: “Kuka-Krunic hypothesis about pre-determination of psychophysical capacities of an individual with inability to influence their change” [1]:

“Nothing in the world is so liable to doubt as the truth is. Namely, what is true and what is untrue, what is axiom and what is dogma, what is a man and what is his shadow, it is not often easy to find out. All questions and answers can be summarized in the following way: there is the truth as a goal and the truth as a means. Where the truth ceases to be the goal and turns into the means that is the point when the truth turns into a lie, axiom into dogma and the man as a subject of the truth becomes an object of manipulation because he goes out from the sphere of anthropology and becomes an object of theology and ideology. The essential issue of what is the right path of the truth gives a conclusion from the up-to-now historical heritage: Although the truth is a real rarity, offer is always higher than demand. Pushing aside the emotions as the main factor of biased selection, we will try to divide reflectively, from all that has been said and written, any complex notion of comprehension (of the truth) into its constituent parts, not by means of our constructions or improvisations but based on the known published matter. The correctness of our conclusion will be supported by a series of individual facts in its favor which increase the likelihood of its being correct. This reasoning of course quite differs from that derived on the basis of evidence, but hopefully it is not a news that a proof is of an individual nature - what is true (a proof) for me may not necessarily be true (a proof) for you and vice versa. Among all possible and applied sentences that are products of human thinking and various forms of communication, one type stands out and is attributed

the respective qualities of true (correct) and false (incorrect). These are statements (judgments, opinions). No doubt the statements, i.e. variables that take only two of possible logic values (truth and untruth - lie) are exactly groundwork of thinking and communication. That is why the research of evidence and testimonies, the criteria of particular statements' truthfulness, is one of the most significant issues of the entire human intellectual activity. We check the truthfulness of the following statements: (1) I am now reading the preface to the book, (2) I am alive, (3) It is an eclipse of the Sun now.... by being fully convinced through getting a direct insight in the state of the matter. We think that in these cases any other evidence is superfluous. We would be certain that we are mocked by who would insist on our explanation of why we believe that we are alive. Things are a bit different with the following statements: (1) In the southern part of the Sinai Peninsula there is the Mount of Sinai (the Mount of Moses), (2) The Earth rotates around the Sun, (3) Jesus existed. We consider these as true or untrue because we trust that, if not exactly we, other people can provide evidence to corroborate them. Here we come across indirect evidence. We certainly would not think that we are mocked by the one who maintains that "people say that Jesus did exist, that there are some indications but it is all uncertain because the number of intercessions is too large." We would probably find the supporter of the thesis on nonexistence of Sinai boring, but you must admit that the only true testimony would be a journey to the Sinai Peninsula. As far as the Earth's rotation around the Sun is concerned, the denial would cost us significantly less than a journey to the Sinai Peninsula. Physical laws of gravity would be invoked and the satellite surveillance data added to all that. And, who will believe it, let him believe! Now, let us consider the following statement: Each of us has an ancestor who lived 3,000 years ago. At first sight this ancestor of ours, and a likely contemporary of Homer's, may be treated by our persistent opponent in the same manner as the great Greek poet. However, it is not so. Namely, everyone among us had a father, the father also had a father, and the father's father had a father... By extending this list of ancestors into the past we are bound to reach the ancestor who lived 3,000 years ago. Consequently, the statement is true. The evidence is once again indirect, but complete. The truthfulness of this statement has been proved. The evidence of this kind which are indirect but undeniable, meaning they are complete and final, are called proofs. It is clear that proofs are the most important forms evidence for anyone who thinks right. Proved statements have the greatest importance in everyday life. Any proof, which as we have stated is indirect evidence, looks as follows: some statements are established as starting ones, and then, through application of certain regularities, the concerned statement is derived from them. It is exactly the path from the starting statement - a premise - towards the derived statement - a conclusion - that constitutes elements of logic. We are not going to deal with logic here, but to incite, by means of the stated facts, a common-sense and a logical manner of thinking and conclusion making by"[1].

ANATOMY AND CONGENITAL ANOMALIES

Anatomy is the science that studies the shape, the structure and the composition of a healthy human body. Within the framework of the aforementioned content, anatomy studies the shape, the position and the structure of the numerous parts of the body and the organs, studies changes of the shape and the structure, the functions of the organs and the systems, pathological processes and the conditions that lead to the development of diseases, diagnostic procedures, etc. Anatomy, as a branch of biology, is divided into **Systematic anatomy**, which researches the organic systems - with the naked eye or microscopically (histology - tissue structure), namely: (1) Bone system, (2) Joint system, (3) Muscular system, (4) Digestive System, (5) Respiratory System, (6) Excretory System, (7) Reproductive System, (8) Endocrine System, (9) Cardiovascular System, (10) Lymphatic System, (11) Sensory System, (12) Nervous System, (13) Skin. **Topographical anatomy** (medical-surgical anatomy) describes all organic systems, located in the certain part of the body, focusing special attention to their position and relations: (1) holotopic - to the entire body, (2) skeletopic - relations to skeleton, (3) syntopic - relation to organs. **X-ray anatomy** studies the structure of the body on a living organism using: (1) X-ray devices, (2) Computerized Tomography, (3) Magnetic Resonance Imaging - MRI, (4) Positron Emission Tomography, (5) Ultra-sound [2]. Nowadays, through the aforementioned research methods and fields of study of the human body and based on the highest number of repetitions (births), we know how a healthy and functional human body looks like in terms of its composition, structure and function. Due to the simplicity of understanding, we can factually state, based on the largest number of repetitions (births), that a healthy and functional human body, which we can call an "anatomical archetype", consists of: (1) one head with a pair of eyes and ears, one nose, one mouth.... which are by composition, structure and function.... (2) One pair of arms and legs with ten fingers and ten toes each.... which are by composition, structure and function.... (3) One heart.... which is by composition, structure and function.... (4) Two lungs.... Which are by composition, structure and function.... (5) Two kidneys.... which are by composition, structure and function... etc. However, with a large number of repetitions (births), occur deviations, "congenital irregularities", **anomalies**, i.e. changes in the structure or form of an organ, part of an organ or a part of a body in a newborn baby. One of the appearing manifestations of anomalies are the so-called **congenital anomalies**, which can be anomalies of the form, the structure or the function, and which the most of them often lead to a decrease of physical and mental ability. The incidence of congenital anomalies is about 3 - 5% in the general population. The etiology of congenital anomalies can be: (1) multi factorial, (2) monogenic, (3) chromosomal, (4) teratogenic, (5) the unknown. When we talk about the unknown causes of congenital anomalies, the contemporary research shows that about 70% of congenital anomalies are of an unknown etiology[3]. We shall mention a couple of examples that show the frequency of occurrence of some of the congenital anomalies.

For an example, the kidney (Latin: Ren) is a paired organ through which 1/4 of the blood passes from the heart. Nephrons, of which there are 1 - 4 million in each kidney, are the basic units for purifying the blood in the kidney, removing the waste materials, the toxic chemical compounds, the excess minerals and the water from the blood, etc. In an adult, the kidney weighs about 120 - 200 grams, is of about 11 cm long, of about 5 cm wide, and of about 3 cm thick. Medical statistics have shown that anomalies of the kidney and urinary tract (abbreviated - acronym CAKUT, derived from the English name - Congenital Anomalies of Kidney and Urinary Tract) occur in about 3% of fetuses, 1/3 of which are diagnosed prior to the birth (antenatal). How common kidney anomalies are in the pediatric population shows by the fact that about 40% of pathological conditions belong to variations that can exist in: (1) the number of kidneys, (2) the position of the kidneys, (3) the shape of the kidneys, (4) the size and rotation of the kidneys. In daily clinical work, these variations represent 40% of all congenital anomalies, with an incidence of occurrence from 0.3 - 1.6 per 1,000 children². Thus, 0.3 - 1.6 per 1,000 children will be exempted from the highest number of recurrences in terms of the number, position, shape, size, or rotation of the kidney. Based on the aforementioned details, we conclude that the premise: "everyone who is born, according to the "anatomical archetype" will have two kidneys, which according to position, shape, size and rotation will be..." is incorrect, because there are deviations. Due to the deductive argument "deviation", which occurs after a certain number of repetitions (births), the previously stated "logical premise" is invalid, i.e. incorrect.

Let us now take as an example the finger - the digit (Latin: Digitus manus) which is the part of the hand and the foot of the human body. Humans normally have five fingers, with bones called phalanges, on each hand and foot. However, medical statistics shows that not every newborn child will have five fingers on each hand and foot. Polydactyly is a congenital condition in which someone is born with one or more extra fingers or toes. The name polydactyly derives from the Greek words "poly" (many) and "dactilos" (fingers). In this case, the extra fingers are described as "supernumerary", meaning "more than the normal number". Radial or preaxial polydactyly (duplication of the thumb), which occurs on the outer side of the thumb, known as the radial side, occurs in 1 in every 1,000 - 10,000 alive born babies[4]. According to the details, we conclude that the premise: "everyone who is born, according to the "anatomical archetype", will have five fingers on the hands and feet" is incorrect, because there are deviations. Due to the deductive argument "deviation", which occurs after a certain number of repetitions (births), the previously stated "logical premise" is invalid, i.e. is incorrect.

We call genetic mutations the changes that occur in the sequence of nucleotides in DNA, which permanently retain and transmit to the next generation of the cells. The variability of individuals in the population contributes to the most mutations that can affect: (1) the entire chromosomes, the so-called chromosomal aberrations, the changes in the number or structure of chromosomes, (2) only the certain genes, i.e. genetic mutations. As an outcome of genetic mutations, after a certain number of repetitions (births), the child will be born with an animal hair, two heads, three legs, four kidneys, more arms, a tail, etc. Therefore, the human body and the organs, after a certain number of reproductions (births), deviate in some cases, in relation to the largest number of identical repetitions, which we can call the "anatomical archetype".

THE LAW OF A LARGE NUMBERS AND A CRITICAL MASS

The concept of probability is familiar to us from a daily life. We often say about a certain event that is probable, that is unlikely, or that is not probable. If we participate in games of chance, it is unlikely that we will win a premium. It is more likely that we will win some smaller amount, while it is most likely that we will win nothing. The content of such and similar statements is quite indeterminate and often depends on the person's mood. An optimist keeps hoping to get a premium, in spite the low probability. However, this everyday understanding of probability is too indeterminate and cannot be valid to us in the calculus of probability. We shall attempt to show the law of large numbers on the example of one game of chance. Let us try to imagine that there are 39 balls in the drum, which are numbered from 1 to 39. What is the probability, i.e. how many combinations should be played so that with an absolute certainty and without exception, we can expect to hit the seven balls that will be drawn? The probability system shows that the number of combinations for seven hits in the game 7/39 is 15,380,937. This number is easy to understand if we understand that at the beginning of the draw, the number of possible hits is 39. When the draw starts and one ball is selected, there are 38 remaining balls in the drum, which means that the number of possibilities for the first two hits is 39×38 . In continuation of the game, there is always one ball less left in the drum, so the total number of combinations for seven hits is $39 \times 38 \times 37 \times 36 \times 35 \times 34 \times 33 = 77,519,922,480$. However, this product of numbers needs to be divided by the number of ball permutations $7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1 = 5040$, because the order in which they are drawn is irrelevant. The number of 15,380,937 combinations shows that the probability of a hit of the premium (P) is extremely low $P = 1 / 15,380,937$. Low probability of hits is the basis of organizing any game of chance. This is because the organizer of the game of chance has significantly less money than all potential players, and that is why the game is mathematically set, according to the rules that are favorable for the organizer and unfavorable for the potential players[5]. However, an important conclusion for our analysis is that after a certain number of executed combinations (variations) we can expect a sure hit without an exception. A certain more expressive example for understanding the concept of "critical mass", the author elaborated in his scientific paper: "The Genesis of Corruption - the Dominant Features of Contemporary Societies of the Colonial Past Inheritance"[6].

“Namely, “*The Hundredth Monkey Effect*” is the name of an experiment that began in 1950 and examined the behavior of Macaque monkeys on the Japanese island of Koshima. Towards the end of his research in 1979, the South African zoologist Lyall Watson (1939 - 2008) published a book, titled as “*A Life Tide*”, in which he systematized experimental experiences. The experiment was later challenged in one part. However, for the purpose of this analysis, the official version will be used. Namely, in 1952, a group of scientists started giving monkeys a special variety of sweet potato, which the monkeys liked. However, as they threw the potatoes on the ground, the potato was spiced with the tasteless grains of sand on the shore. Soon, the young monkey named Imo, discovered that the mentioned problem is to be solved by washing potatoes in the sea and showed it to her mother. Later, the other monkeys in the group began to apply the skill that Imo introduced them to, and more and more of them enjoyed clean potatoes. And then in 1958, a miracle happened, about which Lial Watson wrote in his book: “In the fall of that year, a certain number of monkeys on the island of Koshima washed the sweet potatoes in the sea. Suppose, e.g., that the number of monkeys was 99 and that on Tuesday at eleven o'clock a.m., another monkey joined the group that was washing the potatoes. And it was that very hundredth monkey that broke through some boundaries, i.e., the critical mass, so that evening almost all the monkeys did the same as he did. Not only that, that very habit skipped the natural barriers and spontaneously began to spread to colonies on the other islands where the monkeys were being in physical contact....”[6].

CONCLUSION

The axiom (axioma) is a word of Greek origin and translated it means a truth that does not need to prove. The axioms are usually used as the basis of logical or mathematical theory. Mathematical theory is based on a system of axioms that necessarily need to comply with the following criteria: (1) the axioms must not be mutually contradictory (e.g. the whole is greater than the part \leftrightarrow the part is greater than the whole), (2) the axioms must be mutually independent and must not be proven one by the other (e.g. the whole is greater than the part \leftrightarrow the set of wholes is greater than the part), (3) every mathematical theory needs to contain a sufficient number of axioms in order to develop a theory. Additionally, the axiomatic theory contains the certain stages: (1) stating basic concepts, (2) formulating axioms, (3) definition of the new terms, (4) deriving and proving theorems. It is significant to understand the concept of "premise" for our analysis (Latin: *praemissa*, *praemittere*), which represents the starting point in reasoning, and takes one, two or more judgments from which it draws a final conclusion. If we say, for an example: “All human are mortal, Archimedes is a human, therefore Archimedes is a mortal,” we come to the statement that “Archimedes is a human,” after which follows the conclusion “Archimedes is a mortal.” This “deductive argument” is valid, because if Archimedes is truly a human, and if all humans are truly mortal, then the conclusion that Archimedes is mortal, needs to be true. However, not all “the deductive arguments” are valid, as we shall support with an example: “All human are mortal, Archimedes is mortal, and therefore, Archimedes is a human.” In this case, it is possible for the premises to be true and the conclusion to be false. It is not difficult to imagine that Archimedes, for example, can be a pet's name and the first two premises remain true, but only the conclusion remains to be the false. We have seen that in the cycle of reproduction in humans, based on a large number of repetitions (births), an “anatomical archetype” can be formed, i.e. the most likely the expected appearance of a healthy and functional human body. However, that very “anatomical archetype” is not an axiom, because after a certain number of repetitions (births), deviations will occur in some of the newborn individuals. Due to these deviations, the premise: “my friend became the father of a child who, according to the “anatomical archetype”, will have two kidneys, because he, his father, the father of his father...” has two kidneys, is not an axiom. Because, after a certain number of repetitions (of births), appears an individual at birth that will have three, four or more kidneys, which my friend's child may have as well. Additionally, the premises: “everyone who is born, according to the “anatomical archetype”, will have one head, a pair of eyes, ears, lung wings...” is not an axiom, because after a certain number of repetitions (births), an individual will appear at birth that will have two heads, more eyes, ears, lung wings.... For example, Siamese twins are identical twins whose bodies are joined in the womb (in uterus). Based on research by the University of Minnesota, it is estimated that this phenomenon occurs once in every 200,000 alive baby births, with a slightly higher frequency in the Southwest Asia and Africa[7].

We conclude that each part of the “anatomical archetype”, after a certain number of repetitions (births), will appear an individual that will challenge the axiom of the "anatomical archetype". Can we now, in accordance with the known experience (a large number of births and mortality of each born individual), without taking into account religious teachings and their interpretations (methods of reasoning), conclude that: "everyone who is born needs to die as well". The only thing we can say from the previous analysis with the certainty from the experience so far is that the "deductive arguments" are correct, but the "logical premise" is incorrect, because there are deviations after a certain number of repetitions (births). Nowadays, the Planet Earth is inhabited by 8 billion of people, but it is estimated that from the first members of our species, 50,000 years ago, until 2018, a total number of 108.5 billion people lived on the Planet Earth. This means that every fourteenth person who has ever existed is still alive today[8]. Is it a fact that after 108.5 billion repetitions (births), a critical mass has been established, when we can claim with an absolute certainty, without an exception, for one of the newly born individuals at least: everyone who is born does not necessarily needs to die." The statement "everyone who is born does not necessarily needs to die" is logically and mathematically indisputable. The only thing is that previous, scientifically confirmed experiences have not confirmed this statement or it has not been

made yet in public. Based on the previous analysis, we can establish a theorem, which truthfulness is proven deductively by means of arguments of logical and mathematical reasoning: **“everyone who is born does not necessarily need to die, which we can assert with an indisputable certainty and without an exception, once a critical mass (?) of the number of births is established on Planet Earth, in which (?) mutation of the anatomical archetype will take place”** (M. Kuka 2022). The fact that one living organism on the Planet Earth has already achieved some form of immortality; it increases the probability of the truthfulness of the theorem from its part, about the expected or already happened immortality of a human. Namely, one type of jellyfish (*Turritopsis dohrnii*) is the so-called “immortal jellyfish”. This jellyfish has multiple organs and it is estimated to have inhabited the Planet Earth for about 500 million years. One can only guess how many jellyfish lived on the Planet Earth, and how many mutations they went through, in order to develop the ability to return to the polyp stage when they encounter a danger (starvation, temperature change). This unique mechanism is called trans-differentiation and allows the jellyfish to "cheat the death" and stay alive. The new body is genetically identical to the previous one, but it is the new one. In order to present it in simplicity of understanding, we can show the immortality of the medusa on the example of the currently non-existent “immortal butterfly”, which could return to its cocoon countless times, and then come out of it again[9]. However, according to the aforementioned theorem (M. Kuka, 2022), we can conclude that the "immortal butterfly" does not exist, because the number of reproduced butterflies on the Planet Earth so far has not established a critical mass, within which a sufficient number of mutations would be carried out, in order to turned the state of mortality into immortality. The example with the human is more than obvious.

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