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Thoughts Concerning Artificial Intelligence & Machine Learning Part II

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Abstract: This study, Thoughts Concerning Artificial Intelligence & Machine Learning Part II is a continuation of a study published under a similar title and aims to rethink our image of artificial intelligence by taking into account the latest results and technical possibilities. It is timely because receives support that has never been seen before and because the results highly affect our lives. This writing places special emphasis on the fact that artificial intelligence - despite any fantastic expectations - must be a purposeful activity, which should only be to help man, supporting his work and life. Rather fast development has many gains for the applicants, but at the same time arise many questions about the effect on humankind. This paper states the necessity of continuous revision and shows some points for that. The high speed may cause fast changes and failures, etc. This paper also calls attention to these. In Hungary, the actuality and high demands against this field require nationwide integration. The recently formed and now government-supported AI Coalition with its program also serves this purpose. A workgroup in this Coalition turn its attention to the side effect of the new results of the Artificial Intelligence. The main attention is given to the effect of everyday life and behavior caused by the new prescriptions and regulations. The purpose is to call attention to such anomalies.

Keywords: Artificial Intelligence, Machine Learning, Human Intelligence, Language, Formal Logic, Automatic Decision

1. Introduction: Purposefulness

'They say, do the impossible!'
'If you tell me what's impossible, I'll do it.'
(Peter G. Gyarmati)

Man's greatest tragedy is when you reach your goal! [1] Becomes pointless, as though man is a purposeful being, so without purpose, his life has no meaning! Is there a solution? Of course, there is setting another goal!

The purposefulness [1] understood also by considering curiosity as the inherent quality of man, in the intention to recognize the world around him. Curiosity is part of the basic definitions of being, the reaction to the environment. This inherent curiosity is already a goal - a goal to cognate, to live, to survive.

The task of the sciences is therefore to explore knowledge and rules, with the help of technology to create tools suitable for achieving goals. There is a long line of such tasks that humanity has created throughout its history from defense to natural disasters, through nutrition, weapons, energy extraction, to the technology of knowledge. The latter is the seemingly most important issue of our time, and one of the most important in this is the development of Artificial Intelligence, putting its technology at the service of man.

2. Axiomatic Thinking

We always have a picture of reality that we accept without any need for proof and build our knowledge, and science based on it. Instead of proving them - perhaps they cannot be proved with the known knowledge - we consider these statements to be obvious. Their existence and credibility (!) are based on the generally accepted, undisputed statements,

1 In our current perception, we call something alive if it is characterized by at least the following three things:
1) responses to changes in the environment;
2) it has energy cycle (at least one): produces the necessary energy by absorbing materials and releasing residues;
3) creates descendant, multiplies into its own image.

views, and axioms of the given age - considered correct by the professional society.

The practitioners of the sciences try to formulate them in the simplest, most logical way, but at the same time, they may change from age to age, because they depend on the most general knowledge of the world - or a discipline - in a given age. The system of axioms thus created always ensures the progress of science in the beginning, which - at least always so far - reveals its contradictions, mistakes, and changes, and a new way of thinking formed. The new paradigm, with its changed axioms, creates a new system of science that we consider truly appropriate if the former remains the special case of the new. This is the progress of science. The history of science also shows the role of the subject in this field: famous individuals, such as Galileo, Leonardo, Newton, Linnaeus, Darwin, Hilbert, Einstein, and others have always systematized newer paradigms.

Axiomatic thinking still has extensive literature in almost every field of science. Its main subject is the study of its boundaries, its inconsistency, and its relation to nature.

The field of artificial intelligence [2] not left out either. Due to its relative novelty [3] and extremely rapid development, its axiomatic definitions are also forced to constantly be revised. This is especially important to limit the dangers of the technique. This study also targets this task.

3. The Linguistic Nature of Thinking

The human is a social being. One of the most important tools in the relationship between people is the speech that developed during the historical process, i.e. it is based on national, and cultural traditions and changes over time. The emergence and existence of many different languages are one of the human sides of nature's diversity. The peculiarity of all language is that it has also become an integral part of human thinking. Besides the action, the other part of our thinking is communication as a tool for interaction among people. As action resonates with our thinking, so does communication. Therefore, language - the means of communication - influences and creates linguistic thinking. With its versatility, language works in different ways, and in addition to the mother tongue, the language of the environment is also a component of thinking. Office language, slang, kid, writer, scholar, machine, and more. We know from practice that lawyers put it in a completely different way, or we can distinguish writers based on their work. All of these are different in mindset as well. Here are three main forms:

1) Native language thinking

The mother tongue is an important factor, so we "socialize" - we integrate into society. It contains national and cultural traditions and ways of expression. It shapes and perhaps bases our thinking. The language of others can be significantly different; it can be incomprehensible, while the language of those living in historical or geographical proximity is quite similar. We like to typify people not only according to their customs but also according to their speech.

2) Scientific thinking

Forcibly, or precisely as the thoughts of scientists, the language of the sciences has long exceeded certain limits in the mother tongue. There are at least two characteristic reasons for this, on the one hand, the intention of the scientific community to understand each other, and on the other hand, the need to describe science as concisely, accurately, and comprehensibly as possible. Thus, Latin has become the language of scientists for centuries, while they applied mathematics and developed it at the same time to describe their results. Scientific thinking and its results are therefore international, a public treasure for the practitioners of science. In opposition to the appearance of unity, there are differences, such as differences in Chinese or Indian thinking, or those that are concealed for some reason – e.g. the Cold War era. Recently, there is a growing demand for the protection and confidentiality of results due to conflicting interests. This temporarily limits the internationality of scientific thinking.

3) Machine (mechanical) thinking

This means the automation of formal logic, the way implemented on machines. The kernel is the machine language, which is a binary command language for computers. Any program that targets an application on the machine can only contain this. The universality of the computer makes possible interpretations closer to men for this command language. These are the programming languages and more and more are born even nowadays. They are target languages and try to serve man to make his work easier, economical, accurate, etc. The closer a language approaches its mother tongue, the more the boundaries of possibilities stand out and become decisive the errors, failures, accuracy limits, time factors, and the human factor, namely the mother tongue and formal logic, become decisive.

Consequences: the opposite of manifoldness and globalization.

The manifoldness of linguistic thinking is a factor in progress; the almost universal effects of globalization today are precisely the intention of unification, that is, the significant intention of limiting and destroying manifoldness. There is also an effort to fuse different cultures - multiculturalism. What if it is not a simplification in a linguistic sense too! If we speak and communicate in one language, we also think in one language! This is a kind of limit! In another sense, for example, in the case of the army there is always the question, who is against whom - what is it for? If we eliminate it, what will the soldiers do? What will be the feature of military technology? What about related science? Obviously, only multiple and diverse armies make sense to strain each other. We can say that manifoldness is a subject-critical part of thinking.

4. Thinking and Intelligence

Which came first, thinking, or intelligence? It is a classic question; it belongs to the world of paradoxes. Is it possible to think without intelligence, and is one intelligent if he is unable to think? In the rest of this study, we attempt to

provide an answer to this from the aspect of Artificial Intelligence.

5. Are the Machines Think

The subject is old, coinciding with the emergence of cybernetics, and the world of computers. It is an exciting and still open question, which is the theoretical foundation of the results achieved under the heading of Artificial Intelligence and the evolution of the relationship between man and machine [1]. So are the machines thinking we are asking the question here as well?

1) The conditions are given we have the necessary tools: sensors, memory, processing unit, influencing output, etc., which are fast enough, accurate, high capacity, and small size.
2) Note that this is thus only an (or more) empty, universal machine; that "knows nothing", "does nothing", but is "capable of many things".
3) Man incorporates knowledge through programs, procedures, and interconnections: data collection, data storage, data processing, evaluation, data modification, procedure modification, communication, etc.
4) Note, that the machine knows as much and does as much as how one program to achieve a goal.
5) It is an important possibility that the results of the evaluation may modify the program itself. Through universality, there are no theoretical limitations and not even, whether and how a program ends.
6) Note, that this possibility is limited by purposefulness as well as the "effectiveness" of the output tools.
7) The machine may even get power to operate it if it sees a need. Such solutions depend on the operator; for example, it is possible to make a machine unstoppable by others!
8) The machines may connect according to the needs of their programs, they can also form cooperating communities, and even they may influence the operation of each other.
9) A newer version of a procedure is considered multiplication. Based on point 3, the machine can also create its own version! If we consider the hardware as our operating environment (unnecessary to throw away, if it is still usable) and assume the possibility of the transfer to other machines, it is already a self-propagation!
10) The question remains, whether - according to the above reproduction - are mutations possible that create a device suitable for new purposes. In other words, will it work according to a new purpose instead of the original purpose for which created? What will happen if that does not suit the man?

6. The Meaning of Artificial Intelligence

Proposition 1. ARTIFICIAL, means human.

Many people say its meaning is "unnatural" - that is, what nature has not yet created - this, of course, is wrong and misleading. On the one hand, because we are not in full knowledge of the creations of nature, and on the other hand, man is a natural being - everything comes to him from nature - so his actions and thoughts also exist in it.

Man can only create what is possible in the world around him, as he is an inalienable part of the same nature. It follows that any kind of imagination, virtuality - even if its tools are so complicated - is natural; can only be imagined and realized in nature. This also applies to the destruction of nature.

We may question this definition for example, if we simply assume that three hydrogen atoms are attached to one oxygen. If we state, that this and the like make no sense to man, or that it cannot produce in nature, we will return to the above right definition. That is, only such human creations are possible, meaningful, and justified, which created in nature and all have effects on nature, including the men themselves.

According to the generally accepted axioms of life, this is the response to the environment, even if sometimes very complex. Obviously, the good and the bad have no role here, because they are voluntary and relative concepts and under different aims can even change their place.

Proposition 2. INTELLIGENCE is a man-made concept, so it is artificial (sic).

Most of the time we mean some kind of ability, skill, proficiency, all that everyone - in a given environment - thinks, understands, and can do. This is so common that it is already trivial - obvious without any explanation. This wording, I argue, applies to not only man but also anything, living and lifeless.

For example:

1) the water "knows" that must boil at 100°C;
2) the bee "knows" that needs to collect pollen - for the honey - and tries nothing else, and even finds his way back into the hive;
3) human, because needs communication to other people, "knows", and learns the language.

Therefore, intelligence is to use and apply knowledge. Creating, getting, to know, and passing the knowledge seems to be intelligence, at least some (?) intelligence needed for it.

Then we can only talk about different levels of intelligence because to use and create something requires skill, dexterity, and proficiency, and that is the intelligence, as we claim here.

In this sense, intelligence is an inexorable statement, an axiom, a certain basic law of nature and life in it, by which, or with which we adapt, we behave adequately.

However, we can also say that the term intelligence is so diverse and so common that any definition of it leads to empty statements. I, too, along with many others, lean towards this, because everything - the whole nature - is somewhat intelligent.

Now, in this sense, intelligence is an arbitrary set of some kind of qualities and regularities?

Proposition 3. INTELLIGENCE means contact with the environment, reacting to it.

Even so, we get a very complex concept, which ranges

from the perception and effect of the environment to the behavior and repercussions arising from some expediency. In this approach, in addition to the ability, dexterity, and proficiency originally interpreted, a new element emerges the expediency, that is, the purpose of the reaction, which is not always the same, may change.

A goal-oriented example: if an opponent is much stronger than I am I should flee, but I still stay because my honor wants it: fleeing is an adequate attitude, while the goal is to defend honor.

Proposition 4. INTELLIGENCE is a summary concept - post priori.

Intelligence is a collection of actions arising from properties and laws.

This is a consequence of Proposition 3. Namely, the ability to list all possible responses that affect the environment. In many cases, the sciences have done or do this when they establish laws about the objects of nature: how the objects react to changes and movements. If we accept this statement, then this collection - no matter how complicated or complex - is enumerable, and forms a finite set.

The examination of the set interpreted in this way is an independent scientific task, the arrangement, classification, order, interpretation of its subsets, etc. is considered.

Proposition 5. None of the statements omitted regarding ARTIFICIAL INTELLIGENCE because both the adequacy and expediency of relationships with the environment are essential.

As we have seen, it is necessary to relate to the environment and the attitude is twofold, always sensory and reactive. Perception notices changes, while the response is interventional or adaptive depending on the perception. Intervention is about changing the environment, while adaptation is about changing internal states. Both so that the newer perceptions meet some kind of expectation. The way of the reaction is the decision, the essence of which is conformity or expediency. Let us create what we want! May we have complete freedom? Who have the responsibility?

7. Relationships

7.1. The Relationship Between Intelligence and Knowledge

So far, we have made and accepted several statements about intelligence. We should do the same with the interpretation of knowledge. For the sake of limitations and negotiability, let us adopt a definition that is appropriate here and does not contradict completeness at all: knowledge is the experience gained and proved by any participant in nature. The statement is historically[2] also valid. As this may change over time and in other ways[3], we always consider the relevance to the situation.

Intelligence is something else because, for example, we believe that an uneducated person can also be intelligent. Then intelligence is more than knowledge because we consider an adequate relationship with the environment as intelligence. Therefore, it is not the same concept as knowledge.

Yet intelligence and knowledge have something to do with each other. Because we consider intelligence to be an ability, we also include the ability to acquire knowledge. The intelligence of certain substances stems from their natural laws and is considered constant. As an example, I recall the states of water as a behavior for temperature changes, or the well-known reflex of the living creatures.

Proposition 6. Knowledge affects intelligence.

Knowledge can enhance abilities, multiply behaviors, and so can change intelligence. Yet we cannot say that more knowledge is proportional to the degree of intelligence. The relationship may affect by other factors, such as purpose, intent, current state, and so on. The concept of stage fright is well known, when in vain knowledge, or ability, the result is thoroughly influenced by the neural state. Knowledge is useless if we cannot live with it, and adaptation is possible without specific knowledge (smart people).

The task of several sciences is to study the latter connections, their results being more of a mapping of human nature and less the object of artificial intelligence. On the other hand, learning - the feedback of knowledge - is a basic requirement.

7.2. The Relationship Between Intelligence and Logic

Proposition 7. Intelligence is more than formal logic.

This relationship is of paramount importance in artificial intelligence activities. It is common in all areas of logic that its result is always definitive and the same, no matter how many times repeats. On the other hand, we talk about intuition, first impressions, etc. every day, which are not elements of formal logic. The artificial creation of such can even be valuable, as we often live with them effectively. Again, we tell that the notion of good or bad is completely misleading here as well, although it is very difficult to avoid. It is well known that the so-called, fuzzy logic, which assigns a certain probability to its logical variables. The method is suitable for modeling, yet the expediency (!) still considers the rules of logic first. The use of probability carries dangers due to unexpected - and in most cases barely manageable - consequences!

7.3. The Relationship Between Intelligence and Concepts

Proposition 8. Without intelligence, there are no concepts.

Concepts arise during the process of learning about nature, in fact, some kind of reflection[4] of the world in man. With concepts, we can describe things with their properties, characteristics, limitations, etc., but defining the latter is also

2 - Natural laws apply to matter and all occurrences of matter;
- The knowledge gained through inheritance originally experience, perhaps from the interaction of mutations and ancestors.

3 It is, in fact, the development of science; the new must contain the old as a special case – as we say.

4 Note: the concept is not reality, but only a model of it, which can be arbitrarily accurate, but it can also be superficial, and even several concepts are possible for the same part of reality due to different expectations and interpretations.

a concept. Therefore, the concept is a complex "concept". Creating a concept requires intelligence because this is the ability which we use to distinguish things and name them. The set of concepts is part of knowledge. In addition to obvious material concepts, there are other meanings as well, because we also name different properties, thought factors, and abstractions. Even, we can also use it to define virtual things. Thus, on the one hand, intelligence creates, modifies, improves, and supplements the set of concepts and on the other hand uses and applies this set. We assume to use it, but we do not know how our brains organize them. Maybe it makes some sort of order, leaves the uninterested, notices new ones, and so on.

From the point of view of Artificial Intelligence, it is obvious to collect the concepts in a database in some useful way. We can assume that there is no need for a database that deals with everything. While there are aspirations for this, such as Wikipedia or the British Encyclopedia. In reality, completeness has never been achieved before! Perhaps the most successful is the so-called, professional lexicons - such as the Stanford Encyclopedia [5] of Philosophy [6]. The Internet is a huge glossary but has many other functions, so it cannot be considered a database of concepts. Systematizations and browsing are not optimal for concepts either. It is not easy to set up for a given task; there are always boundaries, rarely used ones, and so on. An additional problem with machine learning is deciding whether a new concept has emerged, and what is its relationship to subject, property, and other concepts.

It is important to emphasize here that all concepts are also linguistic elements, as we convey them in communication. The same concept may be interpreted differently in different languages. This is the source of misunderstanding, which is the comedy or tragedy of life. In work, we ought to reckon it as a wrong decision and its outcome and consequences can affect men.

8. The Relationship Between Intelligence and System

Proposition 9. Every system is intelligent, every intelligence systematizes.

This is perhaps the most obvious relationship because, in cognition, the understanding always requires some sort of order: the basic tool of intelligence is system and systematization.

According to systems theory [4, 7], all things, even the "simplest" ones, such as atoms, form a system. Our intelligence tries to get to know the systems, to understand how they work, as it may be usable for their purpose and protection. Alternatively, simply satisfy his curiosity and over the centuries justify man's "God-given super naturalness".

During the process of cognition, our intelligence can create a model that more or less corresponds to the original, to the reality. The key question is more or less hidden, that is, how adequate, complete, and coherent the model is. Adequacy is rarely demonstrable in the absence of available mathematical apparatus or suitable methods. Most of the time, we are pleased if our model satisfies the needs under certain conditions and in some cases if we can achieve the desired goal with it. Many times, an inspection reveals that these are only partial models of the whole.

An additional requirement from the point of artificial intelligence is the feasibility of the model with the given methods and techniques. In this, the field of operational research is paramount as the scientifically demanding researcher and explorer of the methods. Recently, an application technology trend known as Systems Engineering emerged, dealing with the design and construction of new systems.

8.1. The Process of Systems Engineering

The Systems Engineering is a set of methods for designing systems. We briefly review its main aspects with the theoretical areas needed to help and prove the solution.

1) *Specification*, which is the consideration of goals, limitations, criteria, and formulation of the problem. There is no theory to this area.
2) Modeling, the *definition* of concepts. Defining model variables and functions, setting up relationship equations. Theoretical areas for this: state, dynamic equivalence, controllability, linearity, and statistical estimation.
3) *Analysis* of equations. Its theory is the dynamic response, the area of stability. This is where the computer application begins.
4) *Synthesis*, assembly of the whole system from the parts validated during the analysis. Optimization Theory helps, which is a theory of conditions that makes the system optimal concerning its constraints. Examples include linear, non-linear, and dynamic programming. In many cases, the area of cost and reliability remains a problem for which both suboptimal and approximate solutions are available.
5) *Planning*. Breakdown of the system set up in the synthesis into physical components, according to the available technique. We have no theory for this either, nor for the beginning of the process. Also based on intuition and experience, it is rather an art than a science.

Note that the theoretical field also develops over time. There are always news.

8.2. Natural, Artificial: What Is the Difference

Proposition 10. The difference is purely quantitative.

Now we found at least, that artificial intelligence is also natural. So what is the difference?

Every participant of nature has some kind of intelligence - we say, all have their own mind. Man has become able to create devices for his own benefit. Most of these are an extension of their own strength - called manufactory. For example, you can hit bigger with a hammer, but only men

know where.

Automated devices must apply some kind of "knowledge" to work. For example, on a loom, the pattern created by a punch card program, or a level gauge is used to prevent a container from overfilling. Autonomy can be very diverse, from the simplest to any complexity: cybernetics is the science of it.

Computing technology is a rather old aid to man's intellectual activity and has proven to be many times better than divination. Depending on the possibilities, even before the electronic computer, it was possible to create mental techniques across history, such as time counters or mechanical calculators, and so on.

The advent of electronic computers raised the possibilities exponentially - nowadays it is almost a limitless device. We are capable of creating intelligence so there is no apparent limit. We can conclude, therefore, that it only differs from nature in that we give artificial intelligence to our devices and continually experiment with imitating human qualities. The reverse is also the case when we fill in human deficiencies with artificial intelligence. For example, prostheses for the disabled or injured, devices for the visually impaired, hard of hearing, etc.

Therefore, it seems that the only difference between natural intelligence and artificial companionship is that man has been experimenting with artificial for a few decades, while nature has shaped it for many millennia. What would we get if we had this difference between the two orders of magnitude? Is it just quantitative the difference?

If we calm down in this and why not do it, we can work with full force on artificial intelligence and make our results suitable for handling things; we just need to apply some kind of control, supervision, and security methods so as not to make too much damage, irreparable mistakes. Nature solved it not purposefully — what it would be — but with mutations and the opportunity given to humankind is the brain. So is the evolution of natural intelligence also dependent on man either? If that is the case, it is artificial, too – manmade. What did nature then, only the possibility with the "leer brain"?

9. Some Consequences and Questions

1. What is the difference? Many people study it: we know the operation of the machine well because we created it. The function of the brain is hardly known. Through research, we know more and more, which is still very little to understand. Further research topic: is it possible to imitate the human brain by computer, which parts or which properties, abilities, and to what depth?

The difference origin from the contradiction that the computer is an imperative[5] technique, while the brain is rather declarative[6].

2. The method of research is to examine the difference. In the medical field - and this is the main area of research on the brain - the difference is between a healthy and a diseased brain. They expect a breakthrough in our knowledge of the brain here, so the study of brain diseases and lesions is the most supported area nowadays.
3. A person called ignorant - uneducated, unskilled - can also be intelligent. Adequate contact with the environment is considered intelligence. Therefore, it is not the same concept as knowledge.
4. By Weizsächer [8] there is communication between DNA and the growing individual in a way that the DNA speaks and the individual understands. This communication is typically one-way - command issue - as if the program speaks to a computer.
5. Professor Szentgyörgyi [14] explained already in the '50s that our biological being lagged in technology. Will there be an approximation and how? How does technology affect people? Adaptation, biological change, mutation, self-destruction, etc.
6. According to Neumann [9], "the computer works differently than the human brain. The human intellect has many qualities that are impossible to approach automatically. The type of logic here, usually referred to as 'intuitive', is something that we do not even have a normal description. The best we can do is to divide all the processes such that machines can do and such that people can do better; then we find ways to connect the two".

So there is no question of identity, in any case, there is some kind of partnership. At least in the fact, that man creates the technique, at the same time the technology changes the man. If the machine can become more and more human and man more and more mechanical, then it seems to be some kind of identification; after a while, the differences would disappear, and equality would emerge, as we imagine in the relationship between women and men. In addition, how would the hierarchy, the governance, and the control develop? On the other hand, are we able to "take care" of making the technology "server only"? On the other hand, this process would even legitimize the difference between men and men, as the political powers constantly try, since all the social orders [10] of history tried to make this. Is this the cause they strongly support brain research?

9.1. Our Relationship with the Computer

We can implement and program on a computer everything that we can explore and articulate meaningfully and accurately - wrote in a study by John von Neumann.

1) The resulting program is a version of the wording rather than what the programmer understood from it. There is communication between the author and the programmer in some languages, and there is also linguistic communication between the programmer and the machine. Therefore, the accuracy of the wording also depends on the language possibilities and limitations!
2) Moreover, one of the characteristics of our intelligence is that we can present, formulate, understand, implement and perform the same thing in several ways (!). This is the manifoldness of the road to the goal.

5 We use the imperative term to control computer activity with instructions. This is the working principle of Neumann's computer in use today.

6 We are talking about a declarative case where the program contains statements from which the machine logically draws conclusions. It is closer to human nature.

3) After all this, it is still questionable whether this program, prepared under the above conditions, fits the given purpose and only for that purpose. “The test of the pudding is eating” keeps the saying going and it is true here too, so the only way to find is by running the program. The condition for this is if there is a suitable simulation or modeling. Otherwise, we can only try in reality. Keep in mind that the situation is similar for all human cases.
4) The creation made in this way will be a tool that adapts to the environment in terms of a goal. Adaptation can be of two types: either squeezing the environment into specified conditions or modifying itself to fit environmental changes. Therefore, always make changes, which in reality is mostly an irreversible process. Whether after the changes made during the process, the original goal or its way to achieve, does not require other solutions? Is such flexibility possible in the program?

Only by embracing all this can we accept Neumann's theorem.

9.2. The Possibility of Fantasy, or Virtuality

Because of the Neumann theorem [9] and conditions, we claim that everything we say, imagine, find, and invent already exists, even if only in our imagination.

After all, according to the now accepted Neumann statement, if we have put it accurately enough[7], we will be able to do it with a computer, able to realize it. May the conditions and additions attached to the theorem cause / enable the diversity of the implementation? Alternatively, are they even not affecting the whole or the devil hidden in it?

The consequence then is that we are thus able to create a world that has never existed naturally. Such is virtuality, the virtual world man-made. Is it possible then to create “unnatural” things that do not fit into nature? Does this question make any sense [11-14] at all? Absolutely, and for two reasons:

1) Even with the best of intentions, it is questionable to what extent it covers the real thing, the goal to achieve, and what other desired or undesirable results may occur.
2) Directing the target in another direction may be intentional - for any interest. It may be harder to discover, than among people because we have less practice to do so.

So then, are we able to map and program nature in any way? Is the border “only” the right wording? Would the realization of an artificial world, with arbitrary beings and things in it, become a matter of time alone?

9.3. The Practice of Artificial Intelligence

So ARTIFICIAL means human creation. INTELLIGENCE is a complex system of human ability and knowledge.

Together, then, the practice of ARTIFICIAL INTELLIGENCE is the result of a human creation capable of mapping and mimicking the desired elements of a system of human ability and knowledge. The emphasis is again on the desired word, i.e. we are talking about an expedient creation. The work is thus created within certain limits. The limits are always determined [16, 17] by the goals of the work to realize and the available tools and knowledge. The latter causes randomness concerning things beyond purpose, and in computer terms, DO NOT CARE[8] details are also part of the program.

Such random parts can bring untargeted abilities, but they can also cause errors and even eliminate the target.

9.4. The Components of Practical Artificial Intelligence

Detection, data storage

Man’s ability to observe his environment. The task of Artificial Intelligence is to create such sensors and to collect and store data about them. It is also important to unify, standardize and make them human-understandable.

Data processing, variations

Systematization of the collected data, preparation of averages and statistics, and others. Based on these, filter out experiences to develop, modify, and change certain skills. The important element is machine learning.

Feedback, influence

Man’s ability to influence his environment and himself. The job of Artificial Intelligence is to create tools to do this. The task is not only physical but mainly - perhaps primarily - mental, such as speaking and other communication. It is important to unify them on the human scale, in the human-machine relationship.

Decision, Expediency, Security

It is still necessary to talk here about the DECISION technique, which is a purposeful activity, based on the human model. Automating the decision at some level and in a sense is the job of ROBOTICS, where the decision applies to the machine itself. In the case of solutions that have a repercussion on nature or man, the decision is an extremely dangerous area and in all cases raises questions of morality, ethics, and even existence.

The problem lies in automation, namely, it implements the decision-making method and goal decided when the system is created, even though it already changed the environment by the first decision and now may not be suitable at all. Discussing the dangers, examining the impact of the decisions[9], and being careful is a priority. Also, should give high priority to security, reliability, and ethical issues.

7 The point is in the word “exactly” because any misunderstanding can create a new world. This is the main theme of world’s literature, the comedy or the tragedy of misunderstandings.

8 On the computer, as the smallest unit, a word (16, 32, 64, 128 bits) can be bound to some variable to be stored, even if it requires only fewer bits. We do not care about the other parts (this is the DO NOT CARE) in the program. How do the values that occur there affect the system and how do they change?

9 Advance in this area is the so-called agent idea that “calculates” the possible consequences before choosing the feedback and chooses the target. The back-chaining technique is a part of this, where we look for the possible starting points based on the goal to achieve.

10. Conclusion

1) This study aims to raise some basic issues according to Artificial Intelligence that needs to discuss repeatedly to avoid mazes due to rapid progress. There is a need for regular correspondence, meetings, and forums. The concepts and questions described here are intended to start these.
2) The engine of all development is an economy that knows nothing but its interests. The competition is now becoming completely uninhibited, not caring about human values, morals, customs, or even the men themselves. In many cases, such as gaining power, people become vulnerable and become victims of moneymaking. The only limit is maintaining the level of consumption because must consume the products: you get enough money to buy and, if you buy, you can live.
3) Our digital world not only changes the lives of individuals but also, in different ways, affects groups of people, societies, peoples, nations, and states alike. The examination and control of the effects and the expected consequences are constantly necessary to prevent the unilateral assertion of power and economic interests!

Artificial Intelligence as a technique and method is one of the main tools of capitalist competition today. The results can be beneficial to the crowd, but the disadvantages [15] are also commonplace. The desire to win everything does not deter even destroying our Earth.

Sci-fi is no longer the world of such solutions as the registration of people, the misleading of entire societies, and so on. An important experience [7, 18] is that the design of social systems should only fall into the hands of those who primarily understand people and their systems and whose interests are not linked to economic life. It also includes the fact that man is typically an adaptive being - able to adapt to extreme conditions - picks up and uses the results of technology. The constant examination of boundaries - adaptability, expediency, living and living conditions, etc. – are essential and, of course, taking into account that in the ever-changing technical world, the political power with their interests is always attached. This is precisely one of the intentions of this study.

References

[1] Peter G. Gyarmati: Thoughts on artificial intelligence & machine learning. Artificial Intelligence Interdisciplinary Journal. 2019/1. Page 31. DOI 10.35406.

[2] J. Ragett-W. Bains: Artificial Intelligence from A to Z. Chapman and Hall, London, 1992. ISBN 9630567849.

[3] A. Cawsey: The Essence of Artificial Intelligence. Prentice-Hall, 1998. ISBN 9635452853.

[4] J. McCarthy: “Proposal for the Dartmouth Summer Research Project on Artificial Intelligence”, Dartmouth Conference, 1955.

[5] https://plato.stanford.edu

[6] https://en.wikipedia.org/wiki/Stanford_Encyclopedia_of_Philosophy

[7] W. Churchman: The Systems Approach. Dell Publishing Co., 1977. ISBN 03245764.

[8] C. F. Weizsächer: Die Einheit der Natur, Munich, 1971.

[9] J. von Neumann: The Impact of Recent Scientific Developments on Economics and Economics. Looking Ahead, No. 4, page 11, 1956.

[10] J. Kindler & I. Kiss: Systems Theory. KJK, Budapest, 1971.

[11] E. Louw & N. Duffy: Managing Computer Viruses. Oxford University Press, 1992. ISBN 0198539738.

[12] F. Dürenmatt: Die Physiker. Die Archer Verlag, Zürich, 1962.

[13] R. Escarpit: Le Litteratron. Ed. Flammarion, Paris, 1964.

[14] G. Stent: The Dilemma of Science and Morals. Genetics 78 (41-51), 1974.

[15] W. Isacsson: The Innovators, how a group of Hackers, Geniuses, and Geeks Created the Digital Revolution. Simon & Schuster, New York, 2014.

[16] Y. Takefuji: Connected vehicle security vulnerabilities. IEEE Technology & Security Magazine, 37. 2018, (15-18).

[17] D. Johnson: Who should teach computer ethics and computer society? ACM SIGCAS Computer & Society, 24. 1994, (6-13).

[18] A. D. Selbst: Fairness and abstraction in sociotechnical systems. Proc. of the Conference on Fairness, Accountability, and Transparency. 2019. (59-68).