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The impact of Fuzzy logic in artificial intelligence social sciences and humanities investigations as a model

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Abstract

In this paper, I intend to prove the necessity of natural logic as a solution to rationalize artificial intelligence In the face of this current situation, life has changed due to the replacement of machines and smart devices with the natural mind in fixing, collecting, storing, and quickly processing knowledge and using it. Thus, the task of thinking has diminished, which has become under the authority of a programmed logical system, Logiciels and digital, and even the social sciences, humanities, and sciences. Legitimacy, which is a science whose subject is human beings as consciousness and mind, was followed by the conditions of the new environmental system under the conviction of achieving speed in access to information and data, instant processing and accurate colours, as if it could replace the artificial mind equipped with its intelligent applications with the natural mind even in the field of human and social investigations. Symbolism, imagery, and design replace awareness of meaning, stylistics, and criticism, which has declined greatly. In light of this new Determinism, we wonder about the problem of strengthening the natural mind as a necessity to rationalize investment in artificial intelligence in the social sciences and humanities research model ?

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Introduction:

There is no doubt that talking about a post-modern society is at the heart of talking about its mechanisms, the most evident of which we find in the logical mechanization witnessed by contemporary technology, the media, and communication in space, land, and water. Indeed, life and its requirements have become a field for digitization as an inevitability that we cannot push away. Or live in isolation from it, each connected by a network controlled by artificial intelligence mechanisms.

In the face of this current situation, life has changed due to the replacement of machines and smart devices with the natural mind in fixing, collecting, storing, and quickly processing knowledge and using it. Thus, the task of thinking has diminished, which has become under the authority of a programmed logical system, Logiciels and digital, and even the social sciences, humanities, and sciences. Legitimacy, which is a science whose subject is

human beings as consciousness and mind, was followed by the conditions of the new environmental system under the conviction of achieving speed in access to information and data, instant processing and accurate colours, as if it could replace the artificial mind equipped with its intelligent applications with the natural mind even in the field of human and social investigations. Symbolism, imagery, and design replace awareness of meaning, stylistics, and criticism, which has declined greatly. In light of this new imperative, we wonder about the problem of strengthening the natural mind as a necessity to rationalize investment in artificial intelligence in the social sciences and humanities research model?

1: The scientific and philosophical origins of digitization and its applications

The discussion in the field of contemporary formal logic makes us open a door to discuss new concepts and terms, most of which fall into the field of logos, and have new meanings that are compatible with the developments of theoretical and applied computer science. It begins with the signifier and propositions and then turns into inferences and functional applications, but in its simplest meaning, it emphasizes the separation between the meaning that the proposition carries and the structure in which it appears, such as sounds, connotations, and words... and this is what called for a new language composed of symbols, and It is more formal than it was in traditional logic, starting with the first analyzes and the second analyzes in the Aristotelian theory of analogy. But it is not simply understood that symbolism is synonymous with formalism, as this entails the existence of two different, conflicting logics, one formal and the other material. We must be alert here to the misguidance that this label entails from the correct understanding and distortion of the nature of logic" (Ahmed, 2007, p. 25)

So, up to now, we have understood that symbolism in logic is not formal, but rather a tool that helps in alleviating its issues and achieving accuracy as a desired goal. As long as symbolism is the one with which all inference is written, we say that the issues of logic have been emptied of linguistic meaning until they are counted as a branch of mathematics. As for formality, it is the feature that relates to the form of thought that is evident in the way we think without regard to the topics that we think about and the contents that they use. Because the formal meaning here originally focuses on the image of the relationship between issues and nothing else. This is why we often live in different situations and we want to understand them according to one standard, such as our understanding of ethics and politics, for example, according to the scale of strict logic. However, truth and lies are determined by news and not by the history of social culture, because traditional formal logic was presented as a philosophy, while modern logic is presented as a positive science... and so on. It is called formalism, as it relates originally to the relationship between issues and is not only related to the form of inference" (Dopp, 1952, p. 536), without deviating from the form of the predicate or a specific specification, as the form can be composed by all scientific laws, at a time when each discipline has its share of formality, the first of which is logic, then mathematics, and the other sciences come. Rather, it has become Today, all scientific laws are based on logical foundations. Logic is more formal than mathematics because its laws apply to mathematics based on logical foundations, and this is confirmed by the logical tendency in establishing mathematics. Therefore, the image that represents all forms of thinking in all scientific and cognitive topics is what the science of logic studies" (Ahmed, 2007, p. 25) .

Talking about artificial intelligence is inseparable from the long and rapid development that contemporary logic has witnessed from the 18th century to the present day, and this organic connection strengthens the systems that it knew and the language that logicians invented with the aim of reducing them and lifting the burdens of thinking produced by meanings to simulate the human mind. And go beyond it, if the opportunity arises, by building inferential mechanisms, storing and processing information, and forming opinions in all fields, and linking it to machines that resemble neural networks until the creation of machines that help understand natural language through artificial language, which in turn understands, processes, and synthesizes written and read language. And audio, and read all the available international products." (Russell, 1968, p. 33). This extensive path, there is not enough space here to discuss the details of its development, but there is no harm in stopping at its main stations: The first attempt came with the mathematician and philosopher[1] when he sought to establish A universal language by developing a symbolic alphabet to express words and human relationships as an ideal solution to the problems arising from the natural language, which is laden with meanings and governed by contexts, ambiguity and ambiguity. At first, Leibniz used the language of arithmetic (numbers, the four relations +, -, Naturalism into calculation. And all of this is for the sake of speeding up and overcoming confusion, and the name that is said in conjunction with. His name was linked in logic and its history thanks to the founding of the algebra of logic, where he transformed logical operations into equations and algebras. He linked it to separation, connection, and negation. He explained the method of connection and separation, the laws that govern it, and the nature of flexibility that characterizes it through transformations such as substitution, grouping, and distribution, which became the basis of the conclusion. From here, the opportunity to transform natural language into symbolic language increased, as equations became Fatalism is what floats on the surface of logic, and at the beginning of the 20th century the third stage came after a series of joint research (Russell, 1968), who reached a very important

1- Leibniz Gottfried Wilhelm 1646-1716

conclusion confirming that ignorance of the alphabets and The principles of symbolic language and the misuse of language are the cause of disagreements in traditional philosophy. In these researches, we find the rules and methods that enable the transformation of natural language into symbolic language as a complete language. Gottlob Frege, in turn, contributed by introducing symbolism and establishing the logic of predicates, with which he wanted to expand the field of possibility and values.

The fourth stage came, logical and digital mechanization, and this is what the physical entity represents in computers (hardware) as tools for solving logical problems and in the language of numbers. It consists of two numbers (1 and 0), which symbolize truth and lies, and they can be represented physically by the machine through which the current passes. The electrician, when 1 is closed, and 0 is open, the current does not pass, and from there they turned to the language of numbers to represent human natural language in machine language, using code and software to represent knowledge and algorithms to apply it, and thus the information revolution exploded, which led to the dream of producing robots and computers with amazing intelligence. In speed, processing, and accuracy, which are always associated with the developments witnessed by logic from binary to tertiary to multi-valued logic. However, it turned out that the mentioned areas are not sufficient to express all the mental and psychological operations and the computers that were built on them, and that there are many operations. It began to escape its scope because its programs were restricted between two spaces 1-0, and it also failed to solve many of the paradoxes caused by true and false issues at the same time. This is why scientists resorted to a logic closer to what they called flexible logic, which goes beyond the strict second developed by Lotfi Zadah. in two papers whose origins go back to the Eastern Buddhist philosophy on which Its belief is that the two opposites come together in one thing, and from here came the idea of flexibility, which represents the world of contradictions...and thinking through flexible, contradictory groups" (Kosko, 2014, p. 22). This is what makes thinking and control possible in the field of possibility, possibility, and approximation through a project that was initially a dream related to returning. To natural language with software that is closer to human language that helps develop communication between humans and machines that do everything he needs in the thinking process, including capabilities and simple and complex operations. The closest example that we can use to justify this new phenomenon is dialogue with a machine (computer, Smartphone, TV, car, gates,..) Question and answer, to the point of understanding, clarification, setting goals and implementing operations accurately, in different languages and even distinct verbal habits that are modest (dialects). Here lies the advantage of flexibility that it has. A degree of possibility of deconstructing the complexity of natural language, which requires greater awareness of the meanings and words determined by the context and environment, as well as translations, in writing or in speech, conversations, and translation of speech and texts. Rather, it has reached the point of being able to use this programmed communication method in natural language, which plays the role of a psychological processor, interacting with the questions of learners of different ages and levels in the educational field, and here it appears to go beyond simulating mental processes by deciphering ambiguous information based on linguistic variables and artificial neural networks that were designed. For computers. Here we record a kind of leniency in dealing with complex human phenomena that are driven by the soul, will, time, and cognitive load through physical and chemical mechanisms.

2: Forming and strengthening the natural mind

What forces us today to stop talking about the natural mind "with its components, components, and functions is the presence of the educated individual in a medium governed by information technology and digitalization"* in all its aspects, bringing together groups, classes, and society in one field, and even peoples with their various cultures, tongues, and systems. If the association with images, shapes, colors and sounds facilitates and clarifies the acquisition, and the individual does not bother to provide his memory with knowledge or his intelligence in arranging, analyzing, processing and deductive synthesis, then necessarily he is not able to criticize and establish and is satisfied with consumption and the account . Especially, if we believe that the social and human sciences aim to form awareness and awareness of consciousness, and this does not happen outside the mind. Which connects a person to his reality. But is the connection between the created technical mind and the natural human mind equal in theory and application?

No one disagrees about the existence of the influence of contemporary technological mechanisms and devices supported by artificial intelligence programmed with applications and algorithms on the human mind when it takes over from it in most functions such as collection, analysis, classification, arrangement, processing, linking, and deduction. This influence indicates the danger of separating the human from the human mind. Its subject and its

* Digitization: A new term in dictionaries, by which we mean technological performative applications of multiple logical systems, and algebraic, arithmetic, and geometric expression on phenomena and things in an abstract, abstract manner, including machines invented by man, computers, electronic devices, mechanical devices, fibers with the ability to control remotely. After...according to a very precise programmed logic system. Or it is the various electronic educational media, which are present in digital form. See Abdul Mueen Saad Al-Dani Hindi, Economic Transformations and Contemporary Educational Issues, Dar Al-Ilm wal-Iman, 1st edition, 2009, p. 129.

real world. Experts attribute this issue to the delay in human sciences due to the wave of applications of the new logical positivism and the computer revolution and its generations that have swept the world to the point of stereotyping humans and quarantining the mind and confining it to emotionality only without the necessary effectiveness of research and innovation in solving problems, especially those that... It is characterized by environmental and psychological specificity. Therefore, it has become necessary to find a compositional architecture that strengthens the capabilities of the natural mind, which begins with controlling the limits and their meanings to build premises from which they move, and training in the use of precise logical connections that guarantee the soundness of the mind to reach the conclusion, because scientific studies still emphasize It is necessary to activate the relationship between logical reasoning, material and form, to solve the problems that confront the individual (Al-Mansour, 2012, p. 111), which must be preceded by understanding and realizing the relationships between the elements of the problem, and this skill does not come except through contact and practice, because scientific treatment is based on an inferential network, and when it comes to human phenomena, Social and its cognitive representation requires mental intuition to be present, and this task is not always taken over by applications and algorithms due to the specificity of their connection to the ego and the self with its psychological and sociological awareness, and this imposes the presence of the individual in the knowledge society or the new market society, the individual and the society from which the decision is made. It justifies mental influence with all its load of methodological rules, terminology, stylistic, value-based, rhetorical and sometimes metaphysical... That is why I say clearly that electronic education and training (artificial intelligence) is not bad and dangerous in itself, but rather becomes so if it is not preceded by... It is supported by systematic, logical, and cognitive theoretical backgrounds...that protect it from falling into neo-paganism that fossilizes its original mind (Moussa, 2015, p. 222). Therefore, the mind must be trained in analysis, synthesis, understanding, reasoning, and criticism in the natural language with meaning and terminology, stylistics, and human specificity. And value. The matter becomes more complicated and confusing when the computer cannot transform the natural language in which the reports of these sciences are written into symbolic issues that it understands accurately because they often come outside the limited series of instructions between two endings with expressions of prohibition, question, exclamation, appeal, metaphors, and rhetorical colors. In these cases, the mind must be trained to recognize these gaps covered by a computer designed according to the values 1 and 0. It restricts data processing because it hesitates between two opposite ends (the mechanical connection between the human and the computer), and the matter becomes more dangerous when it is equipped with a central processing machine (Van New man). -1903-1957)[2]For this reason, the mind must have theoretical backgrounds about its subject and its machines

However, if the mind is introduced to this education, it stumbles for two reasons: the first is the difficulty of adapting to new designs, so many issues related to paradoxes and space that operate outside of duality in human reality escape it and are covered by the rush after speed to information and data to make decisions and enter the new market. The second falls into programming and automation and treats all phenomena without exception as things that are devoid of awareness, reason, taste, and environmental influences... knowing that these particularities are justified at the level of actions and reactions.

And if the new designs for artificial intelligence were built on the outside of the two extremes, bypassing the infallibility of the mind, which was based on non-contradiction, where the two contradictions come together in one matter at the same time under the pretext of flexibility in thinking as a new slogan for the world of contradictions through flexible groups that rely on linguistic variables more than even numerical variables. Regarding the quantities in which ambiguous, loose variables that apply to more than one subject (short, long, light, heavy, cold, hot) are replaced... numbers and basic units of measurement are replaced by algorithms to make appropriate decisions in reality, based on the ambiguity, under the pretext of its wide area and suitability to all. Because it expands the circle of belonging to bring the meaning closer to the machine and expand the circle of possibility that gives the human and the researcher the opportunity to move in the possible and the possible and to get closer to the truth through new languages (programming in logic -prolog-list processing language LISP). What does this mean in the language of civilization? Humanity? The truth becomes a hostage of the central memory, and the many contributions have a role in the victory of the truth. Is this a criterion that does justice to the truth? This is why a new formation of the mind must be engineered in the field of humanities and social sciences, because treating it in this way with this loose burden does not see the objectivity of science. As long as the amount of knowledge and experiences is indicated only by statistics and contributions, ideologies, sects and interests work in this regard. Generative AI is expected to open new doors in the field of creative arts, advancing significantly beyond native text and image generation capabilities. Leading tools like OpenAI's ChatGPT, Adobe Firefly, and Google

[2] . Von Neumann machine: A machine equipped with applications that eliminates the human-machine relationship. It performs central processing, provided by the four generations that deal with the central memory. It receives all inputs and pours into it the output of all logical calculations...then it executes the commands one after the other.. "Nabil Ali, The Arabic Language and Computers, Arabization Publishing 1988, pp. 96-97

Bard are at the forefront of this transformation. ChatGPT has evolved beyond basic text generation, and is now adept in the eyes of many at creating custom versions designed for specific purposes, integrating web searching, image generation (DALL•E), and many other functions, which greatly enhances its versatility In various applications. Adobe Firefly revolutionizes the visual arts and design industries, offering cutting-edge tools for digital artists and designers to innovate and explore new creative frontiers. Google Bard also improves on conversational AI, making interactions more engaging and intuitive (GMO Research & AI, 2023)

Moreover, these advances in generative AI claim innocent purpose, opening up new opportunities for creativity and artistic expression. For example, in music, AI algorithms are now able to compose new sounds and songs, showing that AI can meaningfully contribute to the arts. In visual arts, AI-based text-to-image generators create unique and innovative works of art.

3: Towards rationalization of artificial intelligence

In the face of this explosion that establishes a new human, cognitive, and functional era, and even a new inevitability, that seeks to change our lives with amazing speed, in learning and work, by adopting new applications in a huge number of sectors; And it is likely to spread to all of them, in the environment, health, security, cultures, education, agriculture, sciences and arts...and every day we wake up to an increasing use whose pioneers (artificial intelligence) intend to usher in a new era in human life. We still do not have any kind of knowledge. The person you want and the society you envision in the future... It is as if we are facing a turmoil in all aspects of humanity, the most dangerous of which is the fate of the human mind in the face of tools and devices that stand in for its function, which has been besieged from every side by applications and digital skills until they have become the new frontier for humanity (Olaf, Victoria, Melissa, & Franziska, 2019).

In this case, some regional and global organizations (UNESCO), for example, moved in development, moral issues, education, security and freedoms, in spreading employment in a humane manner without discrimination and without exclusion. Whether in the medium or long term...this new situation requires the intervention of the mind once again, with its load and principles, in order to protect basic rights from the danger of selection, biases, and the waste of knowledge ethics, such as those mentioned in robotics ethics 2017, the human genome 1997, bioethics, and human rights. 2005.

The problem has become difficult, but its solution is not impossible as long as it relates to the mind itself. We see from the window of the noble goal of science to serve man and humanity without burdening it with the problems it produces. Rationalization is the priority of philosophical research and the human and social sciences. It must come from within science and His methods without leaving him to the waves of the economy and the market. The flow of knowledge is beautiful, and it is even more beautiful with epistemological investigation and examination, and objective knowledge in the sciences that we mentioned does not come except by respecting the specificity of the phenomenon and the method, and it deviates when it is treated like objects and inanimate objects. Because physicochemical treatment does not require psychosociological treatment in all cases. Then caution is required from the point of knowledge material to the results drawn because the whole process is fed with a memory open to the bad and the bad, in which there is no fixation, quality, or method chosen by the researcher who is aware and understands well the nature of the human phenomenon, its environment, its time, and the process of separating the searching self from The phenomenon and published and unpublished reports affect judgments and results and make it easy to distort them.

Therefore, no matter what, the danger is possible, and slippages in this type of study cost a lot. Because the field of calculation dominates the field of proof and arguments, and the most effective epistemological alternatives are narrowed because they are always under the authority of the market. Therefore, the digital movement strategy must be rationalized so that we do not move at the mercy of buttons and human sciences turn into calculations that weave outside of his humanity and he loses his natural rights in exchange for speed and colors. Therefore, the task of philosophy, humanities and social sciences has become more difficult and more necessary.

Conclusion:

The Contemporary scientific development supported by the technology of the artificial intelligence revolution has today become an inevitability and there is no room to raise or push it, regardless of the results, and its connection to power and the new market is at the first level and the highest goals that we see in every institutional strategy from the simplest to the most complex, and this situation has increased the mission of science. Man and its burdens after it became clear that it was necessary to select studies related to man in his new environment.

These are the image that are evident in the dialectic of man, science, and the new environment. When he wants to ascertain his place in it, in most cases, he finds the way through software and applications that take the place of his mind in seeing, processing, and correct reports. These are the results that we extracted from the previous introductions, and We have realized the value of investing in the natural mind and its necessary requirements that strengthen it so that it is not ravaged by design, plasticity, and software that may restrict it if it stops forming and updating to choose the angle of integration and paths of adaptation to new means. From here the new mission of the human sciences is evident and how to research problems using technological means and

software, but without underestimating human nature, which cannot be outside the issues of investment in the human sciences themselves any more than before, because the machine did not solve family problems quickly and easily. It reduces crime and deviance and does not solve the problem, but rather increases it because it treats phenomena and behaviors far from the meanings and human characteristics they carry, in addition to the fact that curricula, behaviors and knowledge have become at the mercy of the market. Therefore, we conclude that the market in itself needs Studies to understand and direct it, and software and applications show that they have gone far from pleasing the human being who may have remained in the machine's amusement. This is why humanitarian investigations are facing controversy and embarrassment. It is necessary to quickly change his mind so that his mind does not become fragmented and digitized, thus narrowing the scope of his vision. Treating with natural reason and using doubt in knowledge, stylistics, and method under the cover of epistemological sense in its human form.

Considerations

The authors affirm that this research complies with the ethical standards of academic inquiry in the humanities and social sciences. No personal or sensitive human data were collected or analyzed. The philosophical and methodological reflections presented here are based on theoretical analysis and established academic literature. All sources have been properly acknowledged and cited. The authors further confirm that no text-generation or algorithmic tool was used to manipulate findings in a manner that would compromise intellectual integrity, authorship authenticity, or the originality of argumentation.

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Conflict of Interest

The authors declare that there is no conflict of interest related to this publication. They have no financial, academic, or personal relationships that could inappropriately influence or bias the content of this work.
Just let me know — with respect and professional support always.

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