ARTICLE

The Question of "Mindsets" and AI: Cultural Origins and Limits of the current AI Ethical AIs and Cultural Pluralism

Badrudin Amershi*

Cpo-Im, Bertolt Brecht St. 103, 49088, Osnabrück, Germany

ABSTRACT

The current process of scientific and technological development is the outcome of the epochal Cultural Revolution in the West: i.e. The emergence of the Age of Enlightenment and its pursuit of "rationality". Today, "rationality" combined with "logic" has mutated into a "strong belief" in the power of rationality and "computational processes" as a 'safer' and the only way to acquire knowledge. This is the main driving force behind the emergence of AI. The core of this mindset is the fundamental duality of the observer and the observed. After the imperial expansion of Western Europe–in alliance with religion, its previous foe ("Christianity")–this worldview became the globally dominant mindset. The paper explores the dominant narrative of rationality and reason in Western science, and seeks an alternative world of cultural diversity.

1. Introduction

This paper is a result of internal discussions subsequent to an innovative debate & discussion at Chatham House, London UK in Feb 2022 titled: **The application and misapplication of artificial intelligence today.** It concerned the deployment of AI in the social, political, and economic contexts and the subsequent problems. It is a historical and philosophical paper. The objective is to trace the origin and development of the methodology of natural sciences and philosophical reflections using the concept of "rationality". This was in the wake of the enlightenment revolution in science and philosophy in Europe in the 15th century. This ushered in a novel and innovative way of assessing the external nature as well as the role of the individual in the process. This historical development de-

*Corresponding Author:
Badrudin Amershi,
Cpo-Im, Bertolt Brecht St. 103, 49088, Osnabrück, Germany;
Email: ame_rshi@hotmail.com*

picts the emergence of **a new mindset in Europe**, which then advanced over the whole globe in the wake of geographical expansion, discoveries, and conquest of "new" continents. Consequently, this led to the transplantation of this new European mindset over the globe.

This sets the backdrop for the later emergence of AI– and the problems connected to its application in various human fields.

2. Mindsets, Their Socio-cultural Origins and Their Limits

The concept of human mindset refers to the totality of beliefs, values, ethical concepts, social behaviours, etc. of a human group that have evolved over time–and which guides and regulates the group's behaviour in relation to other groups and external nature. (It constitutes the social group's identity and defines it in relation to other groups– and to the external world.)

Over the span of human evolution, different human civilisations in different geographical locations have emerged, with distinct ways of dealing with internal members and defining their relation to their natural habitat. The Egyptian, Mesopotamian, Indian, Mesoamerican, Chinese, Greek, and Roman civilizations–to name a few salient ones–all had or have their distinct ways of dealing with internal group members, external groups, and with nature. In consequence, several distinct mindsets have left their footprints over the span of history.

At the core of the current paper is the assessment of the so-called western European mindset, which emerged– in relation to the other mentioned civilizations–relatively late in human history, but owing to specific historical circumstances, has been able to expand and spread over the world constituting at present the dominant min-set. It distinguishes itself through a novel approach to dealing with external nature and with other individuals in the social sphere.

This was in the wake of the enlightenment revolution in science and philosophy in Europe in the 15th century. This ushered in a novel and innovative way of assessing the external nature as well as the role of the individual in the process. This historical development depicts the emergence of **a new mindset in Europe**, which then advanced over the whole globe in the wake of geographical expansion, discoveries, and conquest of "new" continents. Consequently, this led to the transplantation of this new European mindset over the globe.

This mindset developed specific concepts (e.g. "rationality" or reason) to grasp and assess external nature. Its success in this domain propelled it further–representing a great leap in the realm of natural science.

At the core of this mindset is the belief that the *observer* ('mind'; the 'reasoning mind') and the *observed* ('external world') are separate entities: The former can completely access the latter. Kant himself, the main proponent of this view, in his later work ("Critique of Pure Reason") retracted and pointed out the dilemma of the "thing in itself" ("Ding a Sich") *which remains "inaccessible" to the 'reasoning mind'*. For Kant "human cognition and experience seemed to be filtering and distorting what we know" [1]**. The "observer" (subject) and the "observed" (object) represented two separate (metaphysical) entities. In this process, the "observer" assumed the critical role. Rationality combined with measurement of "the observed" constituted the fundament to deliver 'untainted' knowledge of the observed phenomena to the observer. For the western mindset, the observer-centric perspective plays a key role in the acquisition of knowledge.**

However, this never developed into a major problem, since adherence to the belief that the observer and the observed are two independent entities was seen as the source of the new scientific discoveries and technologies. Although, this created a "cultural defence wall" around this mindset–shielding it from "irrational" beliefs and "alien" influences, the rise of natural sciences began to create doubts about the fundamental duality.

With rapid advances in the natural sciences e.g. the emergence of the theories of quantum mechanics and relativity, science was forced to re-evaluate the central role of the observer. This led to the dethroning of the singular observer, along with the separation of the observer from the observed. In quantum mechanics, the observer (subject) and the observed (external world)–instead of being two independent entities–are enmeshed in an intricate framework of mutual dynamic interaction. This became more evident in the so-called 'observer effect' Measurement, say of a particle, which ended up affecting it as well: The very act of observation was affecting the observed entity. The observer and the observed represented an interconnected system. Similarly, in the theory of relativity, the notion of a singular frame of reference was abandoned together with the "absolute observer": Observers in different frames of reference obtained different results. These observations required corrections by a system of coordinate transformations [2]. For the leading scientists of the time, this opened an opportunity to search for alternative knowledge foundations and worldviews. Some turned to the Eastern (Asian) knowledge systems and mindsets (prominently Eric Schrödinger E, Werner Heisenberg, Robert Oppenheimer) which seemed to provide a broader field to reconcile these new observations and discoveries [3,4].

These findings represented a fundamental shift in the

prevalent mindset: *The cognition process, based on the constructed duality of the observed and the observer was not able to deliver untainted knowledge.* The act of observation itself interfered with the observed phenomena. This in a way challenged the fundamental duality of the Cartesian world, a constituent element of the western mindset. 'Descartes, in the seventeenth century, divided all nature into two parts, a realm of thoughts and a realm of material things, and proposed that the motions of material things were completely unaffected by thoughts' [5].

This prompted the scientists at the helm of these discoveries to reflect on the whole process of acquiring knowledge. More and more thinkers began to question whether human perception, ordered by reason, was the correct framework for assessing reality. In the wake of these discoveries, the first serious cracks appeared in the wall of duality. The emergence of artificial intelligence provides a new twist to this duality.

3. Emergence of AI–a Watershed?

In this context, the appearance of AI marks a watershed. Artificial Intelligence as the object of investigation introduces a curious twist: i.e. The subject is now observing and investigating itself as an "object" embedded in the natural environment. This represents essentially a historical role reversal! The absolute duality of the subject (thinker) and the object (external world) began to be diluted. However, instead of taking the opportunity for self-reflection, i.e., observation of the subject itself and reflecting on its deeper meaning (consciousness, self-reflection)–this was reduced to investigation mainly of one attribute of the subject–i.e. "intelligence" discarding all others. The quest then started to "measure" this intelligence. The artifact itself has now become the means to study the "subject" as an "object": To produce calculable and measurable knowledge about "human intelligence". In this context, AI developed essentially as a human artifact–which could augment and even extend the limits of human cognition. It could be deployed to assess and order a vast amount of information about the natural and social worlds. Information, however, is not "self-explanatory". To be "meaningful" it requires the backdrop of culture and history. This was mainly the domain of humans to assess order and shape information, which led to actions [1].

Its deployment especially in the natural domain has often produced astounding and beneficial results. With the ability of learning and self-learning, it seems to be able to discover new relationships and patterns among the elements of the natural world, which the human brain with its inherent limitations does not recognize. An example is an AI-based discovery of new drugs (e.g. Halicin–an antibiotic drug), or other solutions in the socio-medical field. *Problems, however, emerge when deployed in the social domain.*

3.1 Deploying AI in the Socio-political Domain: Problems and Limits

With the advancement in AI technology and its inevitable deployment in the socio-political sphere, fundamental questions and doubts have emerged. The task of assessing an enormous amount of raw information and data to arrive at decisions affecting the socio-political sphere was delegated to AI: Because of its technical capability (e.g., speed) to assess and order an enormous amount of data and information in the shortest possible time. *However, this information from the social domain is inherently biased.* Deployment was bound to affect the very social fabric, which had produced this technology in the first place. Humans had no means to assess the value and impact of these automated decisions, judgments and recommendations–about the core areas of their life and survival. The artefact was propelling human societies to a form of subjugation under its technical umbrella.

In contrast to the "domain of natural objects", the socio-political domain consists mainly of symbols, signs, 'and meanings' as well as ethical and moral rules. Symbols and signs have "meanings" assigned to them by social groups. The meaning of a word or symbol lies in its use by a social group. 'Meanings' are not ephemeral entities but depict what use particular groups make of these concepts. They are subject to changes over time – and reflect the social history of the group [6,8]. The human socio-cultural domain represents an intricately woven fabric–and its basic stuff is 'information', which is intrinsically biased–since it incorporates existing prejudices and social biases.

The application of a techno-centric oriented AI in this domain is confronted by several challenges–among others, i) its dependence on a pool of biased information, ii) blindness towards cultural diversity, iii) ethics and morals as guidelines and not "mechanistic rules", iv) the technocratic requirement for measurability.

3.2 Cultural Plurality (Diversity) and AI

An important blind spot of the western mindset is the acknowledgment of cultural plurality. Information is dependent on its context and its origins: "To be useful–or at least meaningful–it must be understood through the lenses of culture and history" [1]. Cultures manifest themselves at different levels and recognizable differences emerge. At the 'individual' level, in the West behaviour appears

to be guided and judged primarily by the performance of individual members ("self-orientation"). This includes the achievement of self-set goals. In Eastern cultures, individual behaviour seems to be guided by vague attempts at maintaining "harmony" with others in this social field and adherence to the principle of "non-disturbance". It is "other-oriented" in contrast to *"self-orientation"*. A concrete statement on a specific individual behaviour outcome may not be possible. Behaviour outcomes could assume e.g. several values at different times [7]. Deploying AI to assess and arrive at global solutions to socio-political and geo-political problems in diverse cultural domains is destined to produce slanted and even dangerous results. AI –developed and programmed as an artefact within the mindset of the west–may not be able to spot and identify culturally diverse worldviews and social behaviours and expectations.

Up to now, the whole discussion of ethical machines or artificial moral agents appears to eschew some fundamental questions of taking adequate account of the fundamental difference between human ethics, moral judgments, and rule-driven behaviour. Ethical and moral rules, as essential elements of this domain, guide social action and interaction. However, it would be fatal to consider ethical and moral action as simply "rule-driven"–like a machine or mechanical device. Moral and ethical action involves a strong element of self-reflection and "wisdom". "An algorithm knows only its instructions and objectives, not morale or doubt" [1].

3.3 Can We Conceive Such Machines as "Moral Agents"?

The appeal of AI in this domain rests on the assumption that "it offers an objective way of overcoming human subjectivity, bias, and prejudice" [7]. However, in actual practice, the algorithms appear to actually replicate and even magnify the inherent social biases (op. cit).

Particularly rising doubts confront attempts to deploy a human artefact (AI) to process biased information about the social domain. Letting "human artefacts-(AI)" utilize such biased information corrupts the central principle of knowledge acquisition: knowledge should be untainted by "social ideologies". Under these premises to arrive at "socio-political solutions" to social problems–bar any social and ethical correctives–does not bode well for human progress. This inevitably raises questions about ethics accountability and security: *For whom, why and to what purpose*. As Gill has often cautioned, "the accelerated integration of powerful artificial intelligence systems into core social institutions and systems, pose social challenges of governance, ethics, sustainability, intrinsic bias, ac-

countability and security" [9].

We are thus back to the core problem of intrinsic bias in the information database of the social domain. Extending the application of "ethical machines" in different cultural contexts, as we have seen, is an overwhelming challenge. This poses a tough question for the construction of "universal ethical machines"–deployable with full force over the global cultural matrix.

3.4 The Question of Wisdom: Solomon's Judgement[①]– an "Algorithm"?

In the ethical sphere, incumbents do not blindly follow rigid rules like "natural objects" or robots. There is always a possibility of "halting or hesitation"–for self-reflection or doubt–in the execution of moral or ethical action. This goes beyond the simple matrix of wrong or right and involves elements of wisdom, self-reflection, intuition, tacit knowledge, and self-doubt. This is the backdrop for the famous judgment of King Solomon. All human narratives in this context have such historical elements woven into ethical or moral actions, which provide guidelines in specific situations. It depends upon the actors themselves, if or how they use these guidelines.

Moral rules do not drive human action like a mechanical device but provide for safety measures, doubt, and self-reflection. Therefore, the deployment of AI in the social sphere and applying the paradigm of rule-driven behaviour leads us into a cul-de-sac. The question in this context appears to be the choice between wisdom and algorithm.

3.4.1 Can 'Wisdom' be Translated into an Algorithm?

The ethical domain of the west is explicitly rule-bound and behaviour is judged by these rules. In other cultures, this may not be the case; ethical values gain their force by reference to abstract and vague principles of "good behaviour". For example, in Asia, this is underscored by vague references to historical philosophical texts and guidelines or narratives of good and evil (like texts on Confucianism or the ancient epics of Ramayana and Mahabharata, the tales of King Vikramaditya, etc.) This gives the "judge" leeway and forces conscious deliberation on his/her part.

Deploying current AI to solve–for example administrative, judicial, social or governmental problems in the non-western world–may produce solutions at odds with the values and morals valid in this diverse world. For the simple reason that it will be programmed with *algorithms applied and developed in the western cultural context and*

① To determine the true parentage of the child, King Solomon suggested dividing the body of the child into two parts**.**

history with its specific and binding rules and history.

However, it should be cautioned that today in many non-western cultures the utility of using AI in jurisdiction and governance *overrides concerns about the basic biases in the programmes used*. The use of AI in the areas of jurisdiction and governance today is widespread in Japan, China and other advanced Asian nations. This fact underlines the contention of the overwhelming dominance of the western mindset. The use and application of AI in Eastern countries and populations *are more guided by its superficial utility than fundamental questions of cultural diversity and programme codes with structural biases.*

Finally, besides cultural diversity, the delegation of decisions, recommendations and judgments to "ethical machines" would require strong reference to the social responsibility of these rulings or judgments: *For whom and why and for what reason?* The basic principle of the knowledge process in the western mindset is the production of calculable and measurable knowledge. Underlying all human social activity are ethics, values, and morals. Using AI in this context implies that ethics and morals are measurable quantities. To date we do not know if these can be translated into measurable values: i.e. If these are computable [10]. Moreover, these translations will need to be compatible with the cultural diversity of the real world.

4. Search for Alternative Perspectives–Historical Evolution and Cultural Diversity

With the emergence of AI in this context, the opportunity eschewed studying the subject itself in a broader context including self-reflection or consciousness. AI was reduced to the technocratic perspective of measurable "intelligence" of the subject. Alternative or other aspects of the subject or its embeddedness in varied cultural and historical environments were hardly considered. With the global proliferation of this theme, the basic questions of its applicability in different socio-cultural domains with different social, moral, and ethical norms have risen to the surface. With its increased deployment in the socio-political sphere, the inherent contradictions and limitations of the mindset behind it seem to become more and more apparent.

Armed with reason and rationality, humans embarked upon assessing reality with this filter. The moot question is if this was the right and only filter. Deploying artefacts-such as AI developed and derived from this original background–especially in the socio-political domain is beset with serious deficits and dangers. All point to the inherent limits and inadequacies of the post-Enlightenment Western mindset–and its utility and applicability in varied cultural contexts. Ignoring these questions whilst deploy-ing AI in the global socio-political domain entails grave dangers to the entire global socio-political fabric. Apparently, the western worldview–as we have seen–exhibits several serious deficits. These are: (i) Its strong adherence to the total separation of the observer and the observed; (ii) its insistence on using reason and logic as the sole instruments to assess the external world and gain "untainted" knowledge; (iii) its "blindness" towards cultural diversity of the world; (iv) its insistence in regarding moral, ethical and social rules as programmable algorithms and (v) its persistent avoidance of questions concerning consciousness and self-awareness.

4.1 Approach of the Non-western Mindsets

It should be pointed out that in the wake of the human civilizational process, different cultures have developed alternative *methods of perception of their natural and social environments and acquisition of knowledge*. These alternative methods of perceiving and assessing the natural and social worlds constituted core elements of these non-western mindsets [11,8].

The question then arises—what meaning and connotations do the concepts about the self and the "world" have in non-western cultures? In short, *non-western cultures* are less concerned about the issues of control over the external environment and more about 'self-control' and 'self-restraint'. Similarly, the question of means (instruments) of acquiring knowledge is not a central concern—since knowledge about the world can be acquired directly (tacit knowledge) *not requiring much mediation* [11].

The **non-western mindsets** are more adept with these themes. e.g., these have always regarded the two categories (i.e., the observer & the observed) as mutually dependent: the "external" world and the world of "observers" are interconnected and are in a state of reciprocal interaction[②]. *In contrast, in Western cultures* acquiring knowledge of the external world is primarily through intervention and measurement.

The following table provides some clarifications (Table 1).

Perhaps we can take the cue from the above and try to pursue this path further–out of the dead-end, which "development" of the last 500 years has taken us. In contrast to western cultures, the cultural history and heritage of other world regions speak a different story. Human history has witnessed the emergence of advanced cultures, states and empires with high levels of technical and social capabilities e.g. in South America, China, India, Egypt, the Mideast, etc. In almost all these cases, societies reached a

---

② "Tat tavam asi": Sanskrit- "thou art that": in Vedantic Hinduism; Chandogya Upanishad, https://de.wikipedia.org/wiki/Tat_Tvam_Asi

high and sophisticated level of knowledge in crucial fields like astronomy, geography, medicine, mathematics, and architecture. This allowed them to not only barely survive but also produce enough surpluses to feed their growing populations and enlarge their reach. They also founded large empires, sophisticated state systems and social organizations and bureaucracies. Their knowledge was also absorbed willingly in the West.

In contrast to the West, however, *not all advances in these cultures were at the cost of jettisoning their history, traditions and institutions*. Their acquiring new knowledge often reinforced their traditions, including social and political structures. Seen from this historical global perspective, cognition processes, technical achievements and knowledge acquisition about the natural and social environment–need not be drastically decoupled from traditions and belief systems to achieve high standards of knowledge. The cornerstone of this Western mindset–the radical break with tradition and the separation of the subject and object in the knowledge and cognition process–seems to have produced a unique narrative of only one proper way of progress.

In the history of human evolution, all alternative worldviews and mindsets however were brushed aside in the aftermath of the expansion of the West and especially Western Europe over the whole globe. The post-Enlightenment mindset, *in alliance with its original foe "religion"* (i.e. "Christianity") was used as a crusade to overrun and dominate all corners of the world. Using reason and rationality as the *sole weapons of acquiring knowledge*, what started originally as a commendable quest turned into a weaponised system to spread a particular worldview as the only possible system of acquiring knowledge. "By separating reason from tradition, the Enlightenment produced a new phenomenon: armed reason…" [1]. Other cultural mindsets, with a long intellectual history of profound discoveries and technical achievement-seemed to have followed different paths and many have not fared worse.

4.2 Role of the "Individual"

An *exception* is the new ***role of the "individual"***. *In difference to the post-Enlightenment tradition of the West, the individual did not play the central role in other cultures*. This is the most important contribution of the western "Enlightenment", which opened the way to a more individual (human) centred world. The singular individual is endowed with basic fundamental and protective "rights". When considering alternative constructs, it would be of paramount importance to regard this as its central element. Perhaps the time is ripe to reconsider the *current narrative of a singular path to human progress*, acknowledge other historical experiences and attempt to synthesize a *novel worldview incorporating different human historical experiences*.

Table 1. Comparison between Eastern and Western cultural patterns–regarding cognition, objective of knowledge, ways of reasoning etc. [11,8]

	Western culture (traditional values)	Non-Western / Eastern culture (traditional values)
Cognition patterns	- Objects /events are discreet - Focus on individual discrete objects and events - Observer and observed are separated (no mutual influence)	- Objects and subjects (observers) are interdependent - Observer and observed can be interrelated - Emphasis on the particular context of the act of observation
Reasoning-process	- Discreet objects /events - Focus on individual discrete objects and events - Observer and observed are separated (no mutual influence)	- Understanding the flux of events - "Insight"/empathic/awareness - Self-control, self-restraint - Restoring cosmic harmony bet. subject & object
	- Control over external events -"Measurability" of "external nature"	- 'Non-interference' with external nature
	- Manipulative: intervening in the external realm	
	- Analytic/deductive - Use of "formal logic" - Cause and effects are completely separated -are discreet categories - Separation of the observer from the observed (dualistic view)	- Inductive; dialectical; Intuitive - Direct knowledge / "tacit knowledge" - Awareness/gaining "Insight" / not control - Cause and effects can have *mutual effects* - Unification of the observed and the observer (holistic view)

5. Conclusions

What then are the essential elements of an alternative mindset that could assist in overcoming the current dilemmas? Essentially, this includes clarification of some open questions and concepts elements:

i). Question of "consciousness": The current mindset has apparently avoided grappling seriously with this question and has relegated it to the realm of "metaphysics". An impartial and unbiased assessment would be helpful.

ii). Overcoming the fundamental duality of the subject & object:

Currently, this principle appears to act as blinder-erasing other viewpoints. Allowing for the subject and the external world to be in a state of reciprocal interaction (an essential principle of the **non-Western** mindset), could assist in explaining the anomalies discovered especially in quantum physics.

iii). The overt reliance on rationality and computational processes as main instruments of acquiring knowledge block the recognition that **non-computable processes** also possess the capability of delivering "knowledge".

iv). Concept of "Information": The recognition that it is not self-explanatory but requires *reference to history, customs and traditions* for a comprehensive explanation.

v). Ethics & Moral: Moral and ethical action involve strong elements of self-doubt, self-reflection and references to historical narratives as guides. Therefore, 'judgments' and the act of judging in the real world are far removed from automated processes based on algorithms. Algorithms function mainly by following objectives and instructions–they do not consider self-reflection or self-doubt. "An algorithm knows only its instructions and objectives, not moral or doubt" [1].

vi). Allowing for "cultural diversity": The current mindset does not seem to allow for other cultural viewpoints. Mono-culturalism appears to be inbuilt into the system.

Proper accounting for these elements and their inclusion in an alternative mindset may assist in providing the correct answers to the urgent questions facing humankind today.

Conflict of Interest

There is no conflict of interest.

References

[1] Kissinger, H.A., Schmidt, E., Huttenlocher, D., 2021. The age of AI and our human future. John Murray: UK.

[2] Einstein, A., 2009. About the special and general theory of relativity, 24th.ed. Springer: Germany.

[3] Schrödinger, E., 1967. What is life? And mind and matter. Cambridge University Press: UK.

[4] Heisenberg, W., 2007. Physics and Philosophy: The Revolution in Modern Science, Harper Perennial. Penguin Classics: London, UK.

[5] Stapp, H., 2009. Mind, matter, and quantum mechanics. Springer: Germany.

[6] Wittgenstein, L., 2009. Philosophical Investigations, 4th ed. Hacker, P.M.S., Schulte, J., (eds. and translators). Oxford: Wiley-Blackwell: Hoboken, New Jersey.

[7] Sandel, M., Ann, T., Robert, B., et al., 2020. Ethical concerns mount as AI takes bigger decision-making role [Internet]. Harvard Gazette. Available from: https://news.harvard.edu/gazette/story/2020/10.

[8] Amershi, B., 2020. Culture, the process of knowledge, perception of the world and emergence of AI. AI & Society. 35, 428-429.
DOI: https://doi/10.1007/s00146-019-00885-z.

[9] Gill, K.S., 2018. Data to decision and judgement making—a question of wisdom. IFAC Papers On Line. 51(30), 733-738.
DOI: https://doi.org/10.1016/j.ifacol.2018.11.205.

[10] Penrose, R., 1989. The Emperor's new mind concerning computers, minds and the laws of physics. Oxford University Press: Oxford.

[11] Varnum, M.E., Grossmann, I., Kitayama, S., et al., 2010. The origin of cultural differences in cognition, the social orientation hypothesis. Current Directions in Psychological Science. 19(1), 9-13.
DOI: https://doi.org/10.1177/0963721409359301.