



# A Proposed Theory of Knowledge: Neuro-Rational Physicalism

By Nayef Al-Rodhan



Recent intellectual history has made considerable strides in acknowledging certain forms of institutionalized discrimination as well as the unjustifiable privilege of certain cultures over others. Our epistemology, however, has in general continued as if its schools—predominantly empiricism and

rationalism—are preoccupied with the nature of knowledge *per se*, rather than the *nature* of knowledge as conceptualized within a specific society or cultural tradition.

Consequently, epistemology has been slow to see its own limitations as well as in acquiring a kind of basic understanding of our shared cognitive architecture. The outcome of improved understanding in this regard would go far beyond academia. It would serve as a more profitable and equitable foundation for international relations. Two crucial features of this new edifice will be humility and an appreciation for underestimated commonality.

The classical positions of both the empiricist and the rationalist schools remain well-entrenched. Empiricism continues to praise sensory experience and the data gathered from such experience. The purists of the rationalist school, for their part, emphasize the role of reason in all knowledge acquisition, as they remind us of the frequent fallibility of our sensory apparatus. This dichotomy has served as the subject matter for long-standing philosophical controversies. Happily, there are now tools to bridge this conceptual chasm. Neuro-Rational Physicalism (NRP) provides a basis for understanding how sensory experience, emotionality, and rational inference are much more intimately related than has previously been appreciated. The relevance of these epistemological debates is not only scholarly but also political. A better understanding of the foundation of knowledge is critical to affirming the role of our limitations and consequently in demonstrating that all “truths” must be respected.

## The Best Aspects of Two Traditions

Neuro-Rational Physicalism and empiricism share the view that sensory data is a source of knowledge. Using contemporary neuroscientific research, however, NRP argues for a much more pervasive role for inference. This is because individual perceptions are colored by the sensory apparatus through which they are perceived, and this apparatus, in turn, is significantly formed by unique spatio-temporal and cultural influences.

NRP also diverges from those rationalists who claim that there is innate knowledge. Instead NRP advocates for “a predisposed tabula rasa” which implies that the human mind is minimally equipped with egoistic survival instincts. We are born without innate notions of good or bad, moral or immoral, yet what we do possess is a survival instinct coded in our genetics, which motivates us to act toward our survival at all (or most) times. As we are spatially and temporally situated beings, all knowledge gained is subject to the influence of the mechanisms of knowledge acquisition, and the character of these mechanisms is *dynamic and influenced by circumstances*.

As Jonathan Haidt has argued at length, even apparently direct sensory input and emotional experience has a cognitive dimension; knowledge is partially “given” by the world but also simultaneously worked upon by the mind of the individual to whom it is given. Because of this, what counts as knowledge by acquaintance will vary with the life narratives and resultant dispositions of each individual.

Members of the ancient Stoical school were thus closer to the truth than they realized in claiming the emotions to be judgments: whatever the case may be with regard to our capacity to control our emotions, neuroscientific research now demonstrates the inferential role in emotional experience. The ancients did not have the advantages of modern brain imaging and other contemporary tools for research, which led them at times to oversimplify consciousness and our mental processes.

It is now known that emotional “decisions” occur and inform behaviour prior to rational awareness of these decisions. Ground-breaking neuroscience experiments and research have proven in recent years that emotions are in fact dominant in our decision-making process. In this regard, modern neuroscience has been able to reverse postulations of philosophers from previous eras, including the idea that the human mind is incorporeal, distinct from the human body, as Descartes had famously argued. Quite the contrary, neuroscientists like Antonio Damasio have proven that some decisions are often picked by the brain after being marked as more “emotionally salient” than others. Through his experiments, carried out on people who missed the part of the brain where emotions were generated, he observed not only that they could not feel emotions, but also that they could not make decisions. Damage to the prefrontal cortex was detrimental to decision-making abilities due to the lack of the emotional machinery.

A dominant trend in philosophy and psychology since its earliest days has been to underestimate the ubiquitous nature of our emotions, their inferential structure, and their functional efficacy. NRP addresses these oversights by giving a fundamental role to the sensory experience emphasized by empiricists, while arguing that this experience itself involves the process of inference focused upon by the rationalists. NRP further creates the conceptual space for emotions to play the powerful role they can be seen to take in neuroscientific research.

### **The Place of Presupposition**

As explained above, inference is critical in how we acquire and manipulate knowledge. This premise gives significant weight to the sources from where our inferences are drawn. The conclusions we make are informed by certain presuppositions, which makes knowledge indeterminate since it is tightly dependent on the nature of those initial presuppositions. This is reminiscent of a relativist stance, yet this is not necessarily the case.

Our world is a world of fact, but our knowledge, which is unavoidably situated within particulars, always strikes a glancing blow at these facts. Put differently, while there are objective facts concerning the physical world, there is no non-perspectival knowledge of these facts. This carries the crucial implication that knowledge has a strong likelihood of being incomplete or containing inaccuracies.

As Gettier has famously shown, one can have a justified belief that the believer nonetheless seems only to have been right about through a kind of luck. The rhetorical question he raised was whether having the right conclusion—though inferred from a mistaken premise—should count as knowledge. The question of whether true opinion is sufficient for knowledge can be traced back to Plato. While debate goes on over so-called Gettier problems, the important upshot for NRP is the critical role played by premises in the acquisition of knowledge.

Because the sources of our inferences are always grounded in our respective particular conditions, the premises from which we operate should be thought of as eccentric to a certain degree, and hence subject to distortions that result in our knowledge being incomplete. Our knowledge is indeterminate, both temporally and spatially, and to a certain degree culturally constrained. It is a daunting task to prove our truths beyond any doubt – at least with the scientific methodologies we have to date; rather, some of our knowledge can be more accurately described as “possible truths subject to proof”.

### **Physicalism and Knowledge in the World**

Comprehending that the ways we acquire knowledge are culturally mediated would be a profound step in softening rigid categories of “otherness” present in our globalized world. The recognition that the situated nature of one’s own knowledge renders it incomplete creates conceptual space for accepting the validity of knowledge formed in different cultural settings and removes the temptation for ranking systems of thought hierarchically. This recognition is as important as it is difficult to promote, especially as numerous policy-makers or ideologues are keen to perpetuate ideas of otherness, garnering political capital or power from such divisions.

As an educational agenda, this legitimization of varying forms of cultural thought and the humility entailed by seeing one’s own knowledge as provisional rather than absolute could go a great distances towards cross-cultural understanding. Neuro-Rational Physicalism provides a deep justification for this process. The physical nature of mental events—traceable through brain chemistry imaging—implies that repeated experiences and emotional inputs become entrenched to the extent that the individual will become unwilling to disrupt them. This understanding has two weighty consequences. First, the stimuli that make up our sensory experience and the ideas to which we are exposed are enormously influential in determining our comprehension and behavior patterns. Second, the entrenched chemical processes make us reluctant to question the premises we take on board and from which we do our reasoning. Therefore, in spite of the provisional, *best-available-explanation nature* of our knowledge, we are often tempted to take our premises to be objectively true.

Understanding the biases embedded in our ‘truths’, and the neurochemical foundations of our long-held beliefs has political and transcultural implications. Transcultural differences may exist, but those who believe they hold an “ultimate truth” are not only mistaken but also dangerous to peaceful coexistence. The long held animosities between the West and the Islamic world, the persisting ‘national humiliation’ narratives embedded in Chinese strategic

culture and perpetuated through national curricula are two resounding yet not isolated examples of how knowledge and prejudice are furthered at times with little critical reflexivity.

This epistemological project of deconstructing the foundations of knowledge and, subsequently, its limitations, needs to permeate the public space. The best way to achieve it is to start off precisely in those places where forms of knowledge are cultivated: schools, and to a lesser extent, the media and the entertainment industry. Revisited curricula and historical narratives which help promote a vision of our limited knowledge and of the plurality of truths is a promising start for greater transcultural understanding and a more functional and thus sustainable, peaceful and progressive global order.

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