Limits to Rationality

Concept Note for Workshop at Hyderabad GA

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ABHISAAR HALL 1

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In pursuit of knowledge, the sciences depend on a wide variety of instruments suited for study of different fields, but there is one instrument of supreme importance to all science – the instrument of rationality. Given its the central importance, it is remarkable that greater attention is not focused on defining the criteria that distinguish rational thought from other forms of cognition which attempt to mimic it as well as on the inherent limitations in reliance on the faculty of rationality as an instrument of knowledge. The World Academy is pre-eminently qualified to examine this issue in its broadest and most profound terms and to evolve guidelines that may be relevant to all fields of science.

The term *limits to rationality* can be approached at two levels:

- Identification of the most common ways in practice science fails to meet the minimum criteria for rationality.
- Identification of the inherent limits of rationality as an instrument of knowledge.

The following partial list is provided in an effort to further define – but not limit – the scope for inquiry in Hyderabad as a basis to stimulate thought and discussion during the workshop.

Common Errors

1. *Sensation:* Rationality requires the ability to factor out the distorting influence of the senses, as in the apparent movement of the sun around the earth.
2. *Logic:* Rationality requires the ability to comply with principles of logical analysis.
3. *History:* Rationality requires the ability to refrain from interpreting earlier theories or viewpoints in a manner other than their original author's may have intended.
4. *Data selection:* Rationality requires the ability for impartiality in the selection and measurement of data.
5. *Falsification:* Rationality requires the capacity to falsify alternative interpretations of data before drawing conclusions.
6. *Ego:* Rationality requires the ability to remove the influence of self-interest, prejudice and vested interest in the formulation of hypotheses and conclusions.
7. *Physicality:* Rationality requires the ability to dispassionately examine conceptions and conclusions that may be at variance with one's own past experience, e.g. the mental attitude of saying 'its never been done before'.
8. *Conformity:* Rationality requires the ability to dispassionately examine conceptions and conclusions that are at variance with established beliefs within or outside the scientific community, including those that might meet with extreme skepticism or even ridicule.
9. *Psychological:* Rationality requires the ability to dispassionately examine conceptions and conclusions that may be at variance with one's own opinions, preconceived notions and fundamental conceptions.

10. *Motive:* Rationality requires the ability to dispassionately examine issues with complete disregard to the personal gain or loss that may accrue from validation of a hypothesis.

Inherent Limits of the Rational Faculty

1. *Objectivity:* The very act of separating the subject from the object and attempting to study it purely by external means may limit the capacity of the subject to understand the object, especially in the social and psychological sciences. Objectivity in terms of impartiality is essential for knowledge, but objectivity that excludes impartial consideration of subjective experience is inherently deficient.
2. *Division:* The natural tendency of mind to divide reality into parts and view each part as a separate and independent whole may result in fragmentation, loss of perspective and distortion of knowledge.
3. *Contradictions:* Mind has a tendency to view reality in terms of contrasting or opposing viewpoints, as if they are mutually exclusive, rather than recognizing the partial truth that may be present in divergent formulations.
4. *Abstraction:* Mind tends to mistake words, concepts, theories and mental symbols for the reality they are intended to represent.
5. *Totality:* Mind has the tendency to view the whole as the sum of the parts rather than as a totality that exceeds in properties and character that sum, e.g. the concept of health.
6. *Integrality:* Mind struggles to comprehend complex interrelationships and interdependence between various elements of a totality.
7. *Intuition:* In spite of the fact that great scientists commonly attribute the origin of their discoveries to intuitive rather than logical processes, mind is unable to grasp the nature of intuitive processes or know how to consciously induce them.

Scope of Workshop

WAAS can focus on identifying and illustrating various aspects of the limits of rationality as they actually impact on the practice of the physical, life and social sciences and seek to evolve a set of guidelines applicable for dissemination to the scientific community.