

DOUBT: SCIENTIFIC AND CONVENTIONAL

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Introduction

The concept of doubt has an important theoretical role as it is a necessary precondition for any philosophical enquiry. The western as well as the eastern philosophical traditions and even for science, doubt plays an important role. Theoretically speaking, doubt can be described as a state in which the mind remains suspended between two contradictory propositions unable to concur with either of them. The Manual of Reason defines doubt as 'a cognition of two incompatible qualifiers in the same qualificand'. In the western tradition Descartes started the move and employed doubt as a pre-eminent methodological tool in his fundamental philosophical investigations. In the Indian tradition also, doubt has played a seminal part in philosophical discourse. There is a great deal to be doubted: our perceptions, reasoning, evidences, inferences, and so on. There are three particular problems related to the idea of doubt have generated extensive literature in Indian context. They are illustrated by the Buddhist, the Nyāya and the Vedānta. In the Buddhist tradition, we can see a sceptical approach to doubt, while pragmatism informs the nature of doubt for the Naiyayikas. Advaita Vedānta position on doubt points to the larger problem of illusion and reality. All the traditions prominently consider the theme of error in the context of their discussions on doubt.

Doubt: Descartes

The theme of doubt has been very influential in the western tradition and it particularly exemplified in Descartes' methodology of doubt. Descartes' universal doubting for everything reflects a method of doubt. For Descartes, the method of doubting was a way to achieve certain and indubitable knowledge. According to him the process of continued doubting comes to a natural end when one cannot further doubt one's own doubting. From these observations

Descartes arrived at that there can be some fundamental beliefs that cannot be doubted and he thought that he could build a system of knowledge based on these foundations.

Doubt: Nagarjuna

The Buddhist philosopher Nagarjuna questions the possibility of foundational beliefs upon which knowledge can rest. According to *pramāṇa* theory, knowledge is based on some *pramāṇas*, which are the means of valid knowledge. Nagarjuna critiques this view by arguing that the *pramāṇas* themselves need validation. If every piece of knowledge can be based upon some *pramāṇa*, then what is the *pramāṇa* itself based upon?

Doubt: Nyaya

The Nyāya theory of doubt manifests the importance of the idea of doubt in Indian philosophy. Doubt is one of the sixteen categories described in Nyāya sūtras¹. First of all doubt is a mental process which is a judgement. Cognitive judgements are two types: true and untrue². There are three types of untrue cognitions: doubt, error and *tarka*. Here we can understand doubt as the recognition of the possibility of error. Recognising the error in itself is eradication of doubt. The process of inquiry begins with some initial doubts, a particular thesis or reason or perception. The remaining steps are the method that will resolve the doubt and lead us to a state of certainty. According to Nyāya, once a state of doubt occurs the steps that are needed for the resolution of the doubt are: purpose, observational data, doctrinal bases, the schema of the argument, *tarka* or suppositional reasoning and decision³.

Naiyāyikas opine that, unless there is some prior doubt there is no possibility of initiating some inquiry. Doubt does not arise in a vacuum: It arises not only in response to some confusion but also based on some prerequisites which includes not only the prior knowledge of something but the absence of universal scepticism. This suggests the essential theory-laden nature of doubt. A typical statement of the doubt bears the form 'Is S p or q'? For Nyāya, doubt has two essential components. One, predicates such as p and q in the doubt must be mutually incompatible and two, they must refer to the same subject namely the same "S"⁴. Thus, the essential character of doubt lies in the oscillation between two predicates namely p and q. For example, we see an object in the distance and have a doubt as to

whether it is a man or a post. Obviously, the object cannot be both man and post. So, an important characteristic of doubt seems to be the capacity to imagine alternatives in the judgment of a perception. Ganeri notes that the condition to imagine two possible alternatives is a necessary condition of doubt⁵. What is the relation between a question and a doubt? According to Somerville there are three main types of questions⁶; Yes – No questions, questions which use interrogative words and alternative questions. The Nyāya form of doubt best fits alternative questions eg: If ‘S’ p or q? or ‘If ‘S’ p or ‘q’ or ‘t’? and so on.

Classification of Doubt

Nyāya classifies doubts into four types. These types of doubt reinforce the contrastive nature of doubt. The first type perceives the common characteristics of both p and q that makes doubt possible. Thus, the doubt as to whether the object is a man or a post arises only because both the man in the far-off distance and the post share some characteristics. The second type explains how doubt arises when an uncommon property is perceived. The third is about doubt arising when we hear two conflicting testimonies and are unable to decide which of the two should be accepted. And finally, the fourth type is about the ontological status of perception, as to whether what we perceive is real or not⁷.

The problems with Descartes theory of universal and hyperbolic doubt, in contrast to Nyāya are many. In this connection Mohanty makes the important observation that what essentially distinguishes Descartes doubt and that of Nyāya is the role of free will. Descartes allows man to continue his doubt even after resolving the doubt but Nyāya dismisses it as being inauthentic and thereby indicating the limits of human capacity to doubt without reason.” Gangesa notes that ‘when there is a doubt there is no regular pattern of behaviour”. When there is a regular pattern, doubt does not occur⁸. Mohanty opines that this is exactly what Descartes and Husserl did not want: they believed that one could have universal doubt yet continue with normal practical behaviour. But according to Pierce notes that this is impossible, because we act based on our beliefs and when in doubt, we do not act until the doubt is resolved⁹.

Scientific doubt

A careful analysis of doubt in science shows many different facets. First of all, there is no universal scepticism in science. The independent reality of the world is a given fact and also the subject. Moreover, it exhibits fallibility and emphasises on action and pragmatism. The link between doubt and action is manifested in science through experiments and the use of technology. In science, the removal of doubt about something means the removal of the cause of the doubt. The emphasis on doubt and action is related to a world view which insists that mere doubt is meaningless unless there are potential ways of resolving it. If doubts are caused, if doubts are dependent on conditions, if there is a structure to doubt then there are clear reasons for the occurrence of the doubt. Once we identifying these factors involved in the doubt, we are actually identify what needs to be tackled to resolve doubt. Thus the relation between doubt and action is not the inability to theorise about doubt beyond its contingency but illustrates the impossibility of theoretical, non-contextual doubt.

In the world of science, doubt manifests itself in various ways. In experiments, there is always a doubt about how we interpret observations and measurement. In broad terms we can classify doubt in science as doubts associated with hypothesis, explanation, definition, description, interpretation in observation, in the use of mathematical concepts and structures and so on. The crucial difference between scientific perception and ordinary perception is the interpretative structure of observations in science. Doubt arises in us because of particular conditions which impede clarity in perception. For science, indirect perception, or rather inference from observations is the normal mode and therefore doubt is strongly associated with such inferential process. Thus, doubt about hypothesis in science is actually similar to the doubt about particular inferences. Also hypothesis are framed in the background of some prior knowledge. Most often, prior theories are needed to formulate new hypothesis. This exhibiting the theory-laden nature of observations and therefore, the theory-laden nature of doubt itself.

Conclusion

In short, doubt plays an integral part in the process of enquiry. It is a necessary pre condition for any philosophical venture. It is the starting point and the catalytic force of every science. Doubt is the suspended state of mind between two contradictory propositions. In western tradition Descartes employed it as a pre-eminent methodological tool. In India almost all philosophical traditions employed doubt as a spring board for their philosophical elevation. Buddhism maintained a sceptical approach to doubt while Naiyāyika's approach was pragmatic. Vedāntic notion of doubt was on the larger problem of illusion and reality. Doubt does not arise in a vacuum. It arises only under certain conditions which points out the theory-laden nature of doubt. In the field of science doubt shows many facets. The link between doubt and action is so strong in science. Doubt is the ignition key of the vehicle of philosophical discourse. The role of doubt is great in the growth of logic and the larger rational discourse in the east as well in the west.

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