

The Indian-Jaina Dialectic of Syadvad in Relation to Probability (I)

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Brief History of Syadvada

There are certain ideas in Indian-Jaina logic called syadvada which seem to have close relevance to the concepts of probability, and which can, therefore supply a convenient background to my own observations on the foundations of statistics. It is always difficult to be sure about the exact meaning of logical and philosophical phrases which were current 1500 or 2500 years ago : and it is not claimed (and I also agree that it would not be correct to claim) that the concept of probability in its present form was recognised in syadvada but the phrases used in syadvada seem to have a special significance in connection with the logic of statistical inference.

I shall first give a brief historical account of syadvada. Jaina religion and philosophy came into prominence from the time of its great leader Mahavira (599-527 B.C.) who was a contemporary of Buddha, the founder of the Buddhist religion. The earliest reference to syadvada occurs in the writings of Bhadrabahu who is believed to have given the following explanation of syadvada : syat = "may be", and vada = "assertion", or the assertion of possibilities.¹

"The syadvada is set forth as follows : (1) May be, it is; (2) may be, it is not; (3) may be, it is and it is not; (4) may be, it is indescribable; (5) may be, it is and yet is indescribable; (6) may be, it is not and it is also indescribable; (7) may be, it is and it is not and it is also indescribable."²

There were two authors of the name Bhadrabahu, the senior belonging to the period 433-357 B.C., and the junior to about 375 A.D., and it is not definitely known whether the above explanation was given by the senior or the junior Bhadrabahu; but the above exposition is usually ascribed to the senior Bhadrabahu of the 4th century B.C.¹ There is indisputable mention of syadvada in the Nyayavatara of Siddhasena Divakara² (about 480-550 A.D.). A little later Samantabhadra (about 600 A.D.) gives a full exposition of the seven parts of Syad-vada or Sapta-bhanginaya in his Aptaminamsa.³ It is clear that syadvada was well developed by the sixth century A.D., and received a great deal of attention in the mediaeval period of Indian logic; the syadvadamanjari of Mallisena (1292 A.D.) for example, is a separate treatise on 'the same theory'.⁴ There are, of course, still later works such as Vimala Dasa's Saptabhangitarangini and a large number of mediaeval and modern commentaries. I am, therefore, dealing with a well-known theme which is considered to be the most original contribution of Jaina logic to Indian thought.⁵

Dialectic of Seven-fold Predication

I shall next refer to the actual text in Sanskrit of the dialectic of sevenfold predication (saptabhanginaya) :

(1) *syndasti*⁶ = may be, it is.

(2) *syatnasti* = may be, it is not.

(3) *syadasti nasti*⁷ *ca* = may be, it is, it is not.

(4) *syadavaktavyah*⁸ = may be, it is indeterminate.

(5) syadasti ca⁹ avaktavya sca¹⁰ = may be, it is and also indeterminate.

(6) syatnasti ca avaktavyasca = may be, it is not and also indeterminate.

(7) syadasti nasti ca avaktav-yasca = may be, it is and it is not and also indeterminate.

The word syat has been translated as "may be" but this does not bring out the full implications. The Sanskrit word in mentioning one possibility has also some indirect allusion to other possibilities. The Sanskrit word asti may be rendered as "it is", "it exists", or "it is existent"; and nasti is the negation, i.e. "it is not" "it does not exist", or "it is non-existent". The third category predicates the possibility of both asti and nasti; of both "it is" and "it is not". The first three categories conform thus to the categories of classical logic and do not present any difficulty.

The fourth category is avaktavya which I have translated as "indeterminate". Other authors have used the words "indescribable", or "inexpressible" or "indefinite". For example, Satkari Mookerjee explains "The inexpressible may be called indefinite".... (JPN, p. 115). I prefer "indeterminate" because this is nearer the interpretation which I have in mind.

It will be useful if at this stage I give an illustration. Consider the tossing of a coin; and suppose it turns up "head". We may then say (1) "it is head" (now). This also implies, (2) "it is not-head" (on some other occasion). The third category follows without difficulty, (3) "it is, and it is not" which is a synthetic predication based on both (1) and (2). The fourth category predicates that the position is still (4) indeterminate.

This, however, does not exhaust the possibilities of predication or modes of knowledge. For example, if we know that it is a coin which has "head" on one side and "not-head" or "tail" on the other side, and we also know that it must turn up either "head" or "tail", we may then predicate that (5) there exists one type of indeterminateness which is capable of being resolved in terms of the first four categories. On the other hand we may know that the subject of discourse is not a coin but something else to which the category of indetermination in the above sense cannot apply, we may then use the sixth mode of predication and assert that (6) there does not exist that type of indeterminateness which is capable of being resolved in terms of the first four categories. Finally, there is the seventh mode of knowledge where we may be able to predicate that sometimes the possibility of resolution of indetermination exists (as in the fifth mode) and sometimes this possibility does not exist (as in the sixth mode).

According to syadvada, the above seven categories are necessary and are also sufficient so that they exhaust the possibilities of knowledge. There is a minority view which hold that there are further possibilities of (8) vaktavyasca avaktavyasca, a kind of duplicated indeterminateness together with successive categories of the fifth, sixth, and seventh types in an infinite regression but the accepted opinion is that the hypothetical eighth category is identical with the fourth so that there is no need of more than seven categories.

I should like to emphasise that the fourth category is a synthesis of three basic modes of "it is" (assertion) "it is not" (negation), and inexpressible, or indefinite, or "indeterminate" (which itself is resolvable into either "it is" or "it is not"), and supplies the logical foundations of the modern concept of probability. Consider the throw of a coin. It has the possibility of head (it is) or not-head (it is not); sometimes head and sometimes not head; and the combination of both possibilities of "it is" and "it is not" in an yet indefinite or indeterminate form. The fifth category of knowledge in Jaina logic predicates the existence of indetermination (which we may perhaps interpret, in modern language, as the assertion of the existence of a probability field). The sixth category denies the existence of a probability field; while the seventh category covers the whole range of possibilities mentioned in the other six categories.

Relativism

It would be of interest to consider some further aspects of Jaina logic. The points to be stressed are that Jaina thought is non-absolutist (that is, it is relativist) and realist. Siddhasena Divakara (480-550 A. D.) in Nyayavatara (which is accepted as the earliest Jaina work on pure logic at present available) gave an exposition of syadvada (knowledge of the all-sided method) of which the authentic text is described below :

"Syadvada, which literally signifies assertion of possibilities, seeks to ascertain the meaning of things from all possible standpoints. Things are neither existent nor non-existent absolutely Syad which signifies "may be" denotes all these seven possibilities, that is, a thing may be looked at from one of the above seven points of view, there being no eighth alternative."¹

It has been pointed out that :

"All objects are multiform (anekanta) according to him (i.e. the Jaina). From their many-sided nature it follows that all judgements are relative. They are true under certain conditions. They are conditional or hypothetical. No judgements are absolutely true. The word "perhaps" must be added to all judgements to indicate their conditional character. This is Syadvada or the doctrine of relativity of judgements."²

"The Jains emphasise manifold nature of real things which are endowed with infinite qualities, modes, and relations to the other things.² They have identity-in-difference. The Vedantists emphasise pure identity and deny plurality. The jainas emphasise manifoldness of inter-related reals and deny pure identity. They are anti-Absolutists. They are advocates of relative pluralism."³

It has been also pointed out that :

"Thus the Jainas hold that no affirmation, or judgement, is absolute in nature, each is true in own limited sense only, and for each one of them any of the above seven alternatives (technically called saptabhangi) holds good. (See syadvadamanjari with Hemachandra's commentary p. 166 etc.) The Jainas say that other Indian systems each from its own point of view asserts itself to be the absolute and the only point of view. They do not perceive that the nature of reality is such that the truth of any assertion is merely conditional and holds good only in certain conditions, circumstances, or senses (upadhi). It is thus impossible to make any affirmation which is universally and absolutely valid. For a contrary or contradictory affirmation will always be found to hold good of any judgement in some sense or other. As all reality is partly permanent and partly exposed to change in the form of losing and gaining old and new qualities, and is thus relatively permanent and changeful, so all our affirmations regarding truth are also only relatively valid and invalid. Being non-being and indefinite, the three categories of logic, are all equally available in some sense or other in all their permutations for any and every kind of judgement. There is no universal and absolute position or negation, and all judgements are valid only conditionally. ¹

Realism

Jaina logic is essentially realistic : "The Jaina philosopher maintains that existents are possessed of an infinite number of attributes and characteristics which can be discovered by experience alone. He refused to put a premium on internal intuition. The mind, even with its active contributions, which the Jaina does not seek to deny, is believed by him to be an instrument of discovery and not a creator of facts." (JPN; p.1)

"Logic has to work upon the data of experience and is as much an instrument as experience is." "Pure logic, prior to and independent of experience, is a blind guide to the determination of truth. Logic is to rationalise and systematise what experience offers." (JPN, p.8)

"A thing is existent, is non-existent and is both existent and non-existent, but always subject to limitations imposed by objective differences of substance, time, space and attributes (dravya-ksetra-kala-bhavapeksaya).¹ The differences in predication are not due to our subjective contemplation from different angles of vision, but founded upon objectively real attributes. They are facts irrespective of the consideration whether we contemplate them or not." (JPN, p.107)

"The Jaina does not see any reason why things should be particulars alone. Things are, according to the Jaina, both universals and particulars together. A real is a particular which possesses a generic attribute". (JPN p.2). "in conformity with the plain verdict of experience, the nature of reals is admitted to be made up of both the elements - universal and the particular and to be cognised as such by perceptual knowledge." (JPN, p.3)

"Things are neither exclusively particulars nor are they exclusively universals, but they are a concrete realisation of both. The two elements can be distinguished by reflective thought, but cannot be rent asunder. So our experience of one particular individual is not confined to that individual alone, but extends to unperceived individuals also in so far as the latter typify the universal as a part of their constitution. Individuals, even when they belong to a class, will vary from one another. Repetition of experience only helps us to take stock of the universal in its true character, but once the latter is known, it does not stand in verification or confirmation by further observation".¹ (JPN, p.6)

The Jaina emphasises the multiple nature of reality and accepts the standpoint of non-absolutism. "He asserts that neither unity nor diversity sums up the nature of a real, but both taken together do it. Unity is not exclusive of diversity or vice versa. The difficulty that is confronted is not grounded upon objective reality, but arises from a subjective aberration, which consists in the imagination of inconsistency between unity and diversity. But unity is associated with diversity and diversity is never found as part from unity, which is its very foundation. (JPN, p.58)

"The central thesis of the Jaina is that there is not only diversity of reals, but each real is equally diversified. Diversification as induced by relations has been explained. The conclusion is legitimate that each real is possessed of an infinite number of modes at every moment. The number of reals is infinite. All things are related in one way or the other and relations induce relational qualities in the relata, which accordingly become infinitely diversified at each moment and throughout their career. Things are neither momentary² nor uniform"³. (JPN, p.70) According to the Jaina "a real changes every moment and at the same time continues. The continuity never breaks down." (JPN, p.70)

"A real is that which not only originates, but is also liable to cease and at the same time capable of persisting. Existence, cessation, and persistence are the fundamental characteristics of all that is real. This concept of reality is the only one which can avoid the conclusion that the world of plurality, which is the world of experience, is an illusion." (JPN, p.72)

The relativism of the Jaina philosopher is to be sharply contrasted with some of the other Indian systems of philosophy.

"The Vedantist start with the premise that reality is one universal existence; the Buddhist fluxist¹ believes in atomic particulars, each absolutely different from the rest and having nothing underlying them to bind them together. The Naiyayika² believes both to be combined in an individual, though he maintains that the two characters are different and distinct. The Jaina differs from them all and maintains that universal and the particular are only distinguishable traits in a real, which is at once identical with and different from both." (JPN p.13)

It is, however, necessary to notice that :

"There is a difference - and intrinsic difference at that - between a manifested and an unmanifested real. They are identical and different both - identical in so far as it is the same substance and different in so far as it undergoes a change of characteristic. This is the Jaina position of non-absolutism." (JPN, p.39.)

"A real is not entirely expressible in all its aspects and modes. But it is not inexpressible altogether. A real being a multiple entity is expressible and inexpressible both in reference to different aspects; it is expressible in so far as it partakes of a universal and is inexpressible so far as it is a unique individual."³ (JPN., p. 113.)

"The unique individuality of a real is not accessible to conceptual thought and, hence, to language, but it is reached by an analysis of the nature of reality as it is apprehended in perception; we have tried to prove, following the guidance of the Jaina philosophers, that the nature of reals, on analysis, has been found to exhibit the following traits, viz., existence, non-existence and inexpressibility." (JPN, 127.)

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