Knowledge, Belief and Doubt:
Some Contemporary Problems and their Solutions from the Nyāya Perspective

J. L. Shaw

Jaysankar Lal Shaw, Senior Lecturer in the Philosophy Programme at Victoria University of Wellington, studied at Calcutta University before going on to receive his Ph.D. at Rice University, Houston. He has taught at Jadavpur University, Calcutta, the University of Alabama, and the University of Hawaii, and his work includes 9 books, 65 papers, and over 100 presentations. He is the first New Zealand-based philosopher to be honoured with his own *Festschrift*. It was entitled *Contemporary Philosophy and J. L. Shaw* and includes essays by leading philosophers and logicians honouring his work.

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Introduction

The aim of this paper is to demonstrate the relevance of Indian epistemology to Western philosophy so that it can be integrated with the mainstream of Western philosophy. Hence I shall discuss:

1. how to suggest solutions to some unsolved problems of Western philosophy,

2. how to suggest better solutions to certain epistemological problems of Western philosophy, and

3. how to add new dimensions to Western philosophy.

The first section will deal with the definition of knowledge as justified true belief as well as the causal no-relevant alternatives approach of Goldman after a brief introduction to the contemporary theory of knowledge. In this context I shall try to show how to solve the age-old problem of knowledge in Western philosophy by using the concepts or the techniques of the Nyāya philosophers. Hence I shall focus on the Nyāya conception of knowledge and its sources, such as perception, inference and testimony. According to our positive thesis, belief, truth and justification are not three independent properties. Justification is a property of truth, and truth is a property of belief.

The second section will deal with belief-sentences as discussed by contemporary Western philosophers. In this section I shall point out that

none of the six theories found in contemporary Western philosophy are satisfactory. According to my positive thesis, the Nyāya philosophers can give an account of belief-sentences without postulating propositions, or sentences, or intensional entities as contents of our beliefs. Since, according to the Nyāya, belief is a doubt-free cognition, I shall discuss the nature of doubt and how the Nyāya concept of doubt is incompatible with certain types of scepticism. I shall also point out how to solve Kripke's puzzle about belief from the Nyāya point of view. Moreover, I shall point out that the Nyāya theory is comprehensive enough to deal with almost all types of belief-sentences of human language generally.

Knowledge

In this section I shall discuss primarily the views of contemporary Western philosophers about knowledge and the Nyāya solutions to the problems related to the definition of knowledge as justified true belief.[1] Therefore, I shall discuss (A) the contemporary definition of knowledge as justified true belief, which has its origin in Plato's *Meno*, (B) Gettier's counterexamples to this analysis of knowledge, (C) post-Gettier counterexamples to the standard analysis of knowledge, (D) the causal no-relevant alternatives approach of Goldman, (E) some problem cases for standard versions of reliabilism, (F) the Nyāya solutions to these problems, and (G) the Nyāya conception of knowledge.

A) Contemporary Philosophy:

The English verb `know' is followed by different constructions that signify a wide range of things that are claimed to be objects of knowledge.

> *a.*   *S* knows that *p*, where '*p*' expresses a proposition or a judgment.

> *b.*   *S* knows how to Ø, where `Ø' stands for activities such as swimming, singing, dancing, speaking, driving, etc.

> *c.*   *S* knows *x*, where '*x*' stands for an entity or a thing, or a person. Hence the verb `know' is followed by a noun or noun-phrase.

In addition to 'knows that *p*', 'knows how to Ø', and 'knows *x*', there are other constructions such as 'knows whether', `knows why', etc; that is, the verb `know' takes a wh-nominalisation. Most contemporary philosophers have emphasised the 'knows that' formulation, but Ryle has emphasised the 'knows how' formulation.[2]

Since most contemporary philosophers have focused on the 'S knows that p' formulation, I shall confine my discussion to propositional knowledge. Almost all twentieth-century Western philosophers have accepted the suggestion of Plato that knowledge cannot be equated with true belief. In the *Meno* of Plato, it is said that what turns a true belief into knowledge (*episteme*) is an '*aitias logismos*,' i.e., the working out of an explanation.[3] Hence contemporary philosophers, in general, have defined knowledge as justified true belief (JTB), although there is no unanimity with respect to the definition of 'justification' or 'belief'.

A. J. Ayer has suggested the following definition:[4]

> S knows that P iff (i) P is true, (ii) S is sure that P is true, and (iii) S has the right to be sure that P is true.

Similarly, R. Chisholm has proposed the following definition:[5]

> S knows that P iff (i) P is true, (ii) S accepts P, and (iii) S has adequate evidence for P.

D. M. Armstrong, in his book *Knowledge, Belief and Truth*, has claimed that the following definition would satisfy different formulations:[6]

> S knows that P iff (i) P is true, (ii) S believes that P or S is certain that P, and (iii) S has adequate evidence for P or S has good reasons for believing that P.

B) Gettier's counterexamples:

But Gettier, in 1963, argued that the analysis of knowledge as justified true belief is incorrect. He has put forward the following two counterexamples to this analysis of knowledge:[7]

1. Both Smith and Jones have applied for a job. Suppose the director of the company told Smith that Jones would get the job. Smith found ten coins in the pocket of Jones. On the basis of the following two premises

    a. Jones is the person who will get the job,

    b. Jones has ten coins in his pocket,

    Smith infers,

    c. The person who will get the job has ten coins in his pocket.

    Now suppose Smith got the job and he also had ten coins in his pocket. Since Smith has justified true belief in c), the standard definition of knowledge applies to c), but he does not know c).

2. Suppose Smith has always seen Jones driving a Ford, and just now Jones gave Smith a ride in a Ford. From these evidences Smith believes that Jones owns a Ford. From the premise

    a.   Jones owns a Ford,

    Smith validly infers

    b.   Jones owns a Ford or Brown is in Barcelona.

Now suppose Jones does not own a Ford, and Brown happens to be in Barcelona. It is just a lucky guess of Smith that Brown is in Barcelona. Hence (b) turns out to be true. Since it has satisfied the other two criteria of knowledge, it is a case of justified true belief. But Smith does not know (b). Subsequently many other counterexamples were put forward, and they are called 'Gettier-type counterexamples'. These examples have the following features[8] in common if we take the form 'S knows that P':

    a.   The truth-condition holds regarding P;

    b.   The belief-condition holds regarding P;

    c.   The justification or evidence-condition holds regarding P;

    d.   Some proposition, Q, is false;

    e.   S is justified in believing Q;

    f.   S does not know that P.

The first attempt to avoid the Gettier-type counterexamples was suggested by adding a fourth condition, which may be stated thus:

S's justification for P does not include any false beliefs.[9]

C) Post-Gettier counterexamples:

But subsequently other types of counterexamples were put forward by philosophers such as Goldman, Lehrer and Feldman.[10] In their counterexamples the justification does not include any false beliefs. They are called 'post-Gettier counterexamples'. Let us state the following counterexamples:

3. Suppose John is driving through the countryside, and sees something which he takes to be barns. These things look like barns, and some of them are barns. John believes that they are barns, and his belief is also true by virtue of there being barns among them. Since all the appropriate conditions for visual perception are present, his belief is justified as well.

Now suppose people around that countryside area have constructed several barn facades which cannot be easily distinguished from real barns. Since John cannot distinguish real barns from barn facades, he cannot claim to know that what he has seen are barns, although he has justified true belief.

4. Suppose a ball looks red to you and on this basis you judge it to be red, and it is really red. But the ball is illuminated by red lights, and you do not know that it is illuminated by red lights. Since it is illuminated by red lights, it would look red to you even if it were not red. Hence you do not know that the ball is red, although your belief has been justified as the appropriate conditions of perception are present and your belief is true.[11]

5. Suppose Smith knows the following proposition:

   P: Jones, who is an extremely reliable person and works in Smith's office, has told Smith that he, Jones, owns a Ford. Suppose Jones was in a state of hypnosis when he mentioned this to Smith, and he has just won a Ford in a lottery. But the fact that he won a Ford remained unknown to both of them. Now Smith deduces the following proposition from *P*.

   Q: Someone, who is extremely reliable and works in his office, has told Smith that he owns a Ford. Now Smith deduces the proposition *R* from *Q*.

   R: Someone who works in my office owns a Ford.

   Now it is claimed that Smith has justified true belief in *R*, as he has evidence for *R*, but does not know that *R*.[12]

Counterexamples of this type have led to a number of defeasibility analyses of knowledge. A defeasibility analysis requires that there be no true defeaters. Following Klein and Pollock the defeasibility condition may be stated in the following way:[13]

There is not a true proposition t such that if t were added to *S*'s beliefs then *S* would no longer be justified in believing *P*.

By applying the defeasibility condition it is claimed that the above examples do not represent cases of knowledge. In our last example, if Smith had known the true proposition that Jones had entered a state of hypnosis, then he would not have believed that Jones owned a Ford. Hence Smith would no longer be justified in believing that someone who works in his office owns a Ford.

But Lehrer and Paxson have put forward the following counterexample to the above defeasibility analysis of knowledge:[14]

6. 'Suppose I see a man walk into the library and remove a book from the library by concealing it beneath his coat. Since I am sure the man is Tom Grabit, whom I have often seen before when he attended my classes, I report that I know that Tom Grabit has removed the book. However, suppose further that Mrs Grabit, the mother of Tom, has averred that on the day in question Tom was not in the library, indeed, was thousands of miles away, and that Tom's identical twin brother, John Grabit, was in the library. Imagine, moreover, that I am entirely ignorant of the fact that Mrs Grabit has said these things. The statement that she has said these things would defeat any justification I have for believing that Tom Grabit removed the book, according to our present definition of defeasibility....

The preceding might seem acceptable until we finish the story by adding that Mrs Grabit is a compulsive and pathological liar, that John Grabit is a fiction of her demented mind, and that Tom Grabit took the book as I believed. Once this is added, it should be apparent that I did know that Tom Grabit removed the book.'

Since this example involves a true defeater defeater, the above formulation of defeasibility analysis cannot handle such cases. In order to deal with this type of example Moser[15] has suggested a more complex form of defeasibility analysis. According to him, S knows that P on the justifying evidence e then e must be truth-sustained. In other words, for every true proposition t, when t joined with e undermines S's justification for P on e, then there is a true proposition, t', such that when it is conjoined with e and t, it restores the justification of P for S.

Against this formulation it may be said that we can never be sure that we know the proposition in question, because it is not always possible to know a true proposition which will restore the previous belief. Moreover, this type of defeater defeater regress may occur again. It is also claimed that by adding a true proposition which will restore the previous belief we may be adding new reasons for believing the previous proposition. Hence we may not be restoring the old reason.[16]

Some philosophers are also sceptical about the fourth condition of knowledge, which can handle both the Gettier and the post-Gettier type of counterexamples. Pollock[17] claims that no proposal of this sort has been worked out in the literature. Similarly, Moser claims that there is no consensus among philosophers with respect to the fourth condition of knowledge. To quote Moser:

'The history of the attempted solutions to the Gettier problem is complex and open-ended; it has not produced consensus on any solution.'[18]

It may also be claimed that the proposals put forward to handle the Gettier-type of counterexamples are *ad hoc*. I think this is due to the fact that the belief-condition, the truth-condition and the justification-condition have been taken separately or in isolation. For this reason, even if all the conditions are satisfied we fail to establish that it is a case of justified true belief, where *justification* is a qualifier of truth, and truth is a qualifier of belief. Before discussing the above six counterexamples from the Nyāya point of view let us mention the reliable process theory of Goldman, which claims to solve some of the problems of Gettier-type counterexamples.

D)   Reliable Process approach of Goldman:

Goldman[19] considers the causal factor of knowledge, but not pseudo-causal factors. Let us consider his example. Tom wakes up in a foul mood one morning and says, 'Today is going to be a miserable day'. Suppose his day was miserable, and hence his belief was true. This type of causal justification is not adequate for knowledge. But the same belief will have the status of knowledge if it is based on an authority. Suppose Tom gets a phone call from his colleague who reports on excellent authority that half of the staff will be laid off and Tom is one of them. Hence Tom believes that today is going to be a miserable day, and suppose his belief is true, as he will be laid off. In this case Tom's belief will assume the status of knowledge as it is based on an authority. But a belief based on feelings or moods can easily go wrong. This is due to the fact that these processes are not reliable. Goldman claims that if a true belief is based on a reliable causal process, then it will have the status of knowledge. For this reason Goldman's theory is called the 'causal reliability approach', which is different from the 'reliable-indicator approach' of Armstrong.[20] Ramsey, for the first time, introduced the reliable process approach. He says, 'I have always said that a belief was knowledge if it was (i) true, (ii) certain, and (iii) obtained by a reliable process'.[21]

Now we have several types of reliable-process approaches. The following pairs would give rise to several types of reliable-process theories: (a) global reliability and local reliability, (b) actual reliability and counterfactual reliability, (c) pure subjunctive reliability and relevant alternatives reliability. The last pair is the division of counterfactual reliability. The following diagram may represent different types of reliability theories:

```
                    Reliability approach
                            |
                    _____|_____
                    |               |
                Indicator       Process
                                    |
                            _____|_____
                            |               |
                    Global—local    Actual-counterfactual
                                            |
                                    _____|_____
                                    |               |
                            pure subjunctive    relevant alternatives
```
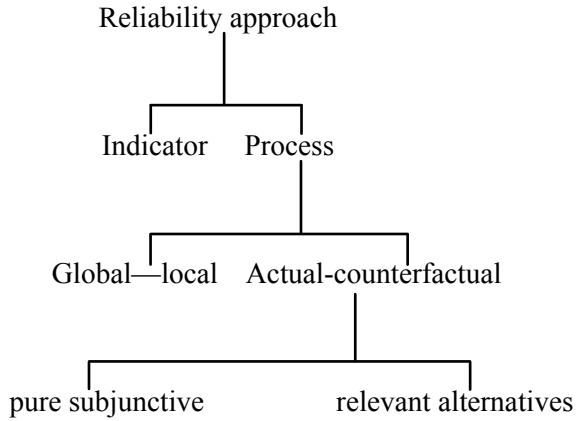
If we combine the members of one pair with the members of another, then several other types of reliability approach can be generated.

The distinction between global and local reliability is drawn in terms of the ranges of uses of the process. Global reliability is applicable to all uses of the process, but local reliability deals with the reliability of process in a particular case. The actual-counterfactual distinction deals with the reliability of a process in actual or counterfactual situations. The counterfactual approach is divided into pure subjunctive and relevant alternatives. The pure subjunctive approach considers the situations in which the proposition in question were false.

The relevant alternatives approach of Goldman considers situations which are relevant alternatives to the truth of the proposition in question. According to this approach, a true belief, say P, fails to acquire the status of knowledge if there are relevant alternative situations in which the proposition P would be false, but the process would cause the agent to believe in P. Hence the process cannot discriminate the truth of P from other alternatives. For example, Smith sees Judy crossing the street and correctly believes that Judy is crossing the street. If it were Trudy, Judy's twin sister, Smith could mistake her for Judy. If Smith could make this type of mistake, he does not know that Judy is crossing the street. The relevant alternatives approach considers only those alternatives which are relevant in that situation. Hence it considers the situation in which Judy's twin sister is crossing the street. But the pure subjunctive account considers the situations in which Judy is not crossing the street or Judy is not there. If, in such counterfactual situations, Smith would not believe that Judy is crossing the street, then Smith knows that Judy is crossing the street. Since this theory allows several types of possibilities, Goldman thinks it is too permissive.

For this reason he does not subscribe to the pure subjective approach.[22]

As regards the local and the global reliability approach, Goldman thinks that they are not mutually exclusive, and he subscribes to a theory which requires both. If a theory requires both, then a true belief assumes the status of knowledge, if it results from a generally reliable process and not just reliable in a particular case. Moreover, Goldman follows the relevant alternatives approach. Hence knowledge of a proposition *P* involves discriminating the truth of *P* from relevant alternatives that are counterfactuals. If the word 'reliable' is interpreted in this way, then Goldman's definition of 'knowledge' may be expressed as follows:

> *S* knows that *P* df. *S*'s belief in *P* results from a reliable belief-forming process.

As regards the nature of reliable belief-forming processes, Goldman says:

> 'For a belief to count as knowledge, I am arguing, it must be caused by a generally reliable process. Exactly how reliable I have not said. Nor do I think this can be answered with precision. The knowledge concept is vague on this dimension…'[23]

In a recent paper, Adam Morton[24] proposes a similar thesis from the standpoint of an externalist. Hence he supports the conception of knowledge as belief that results from a reliable process. As regards the explication or definition of 'reliable process', he also says, 'There are hard questions about the definition of reliability.'[25]

With respect to the question of whether belief-forming processes include or involve external factors, Goldman says: 'One thing we do not want to do is invoke factors external to the cogniser's psychology. The sorts of processes we're discussing are purely internal processes.'[26] Now let us see whether the reliable relevant alternatives approach of Goldman can solve the Gettier or the post-Gettier problem. As regards example (2), Goldman claims that Smith does not know that Jones owns a Ford or Brown is in Barcelona, although it is true. This true belief is defeated by the following relevant counterfactual alternative:

> Jones does not own a Ford and Brown is not in Barcelona.

In other words, Smith will hold the same belief even if Jones does not own a Ford and Brown is not in Barcelona. Hence Smith fails to discriminate this counterfactual situation from the actual state of affairs. Our example (6) is similar. In this case I fail to discriminate Tom Grabit from John Grabit. Hence I cannot discriminate Tom Grabit's stealing the book from the library from John Grabit's stealing the book from the library.

Here John Grabit's stealing the book is considered as a relevant alternative. Goldman also claims that when I come to know that John was a fiction of Mrs Grabit's demented mind, this alternative ceases to be a relevant alternative, and I can be credited with knowledge.

In view of doubts about the definition of 'reliability,' it seems to me that Goldman's theory is still in the form of a programme. His theory requires a comprehensive account of counterfactual situations. He also needs to spell out in detail the concept of relevant alternative. Since the relevant alternatives vary from one context to another, it is doubtful whether a precise definition can be formulated. He has also admitted that he does not have a theory of relevance. To quote: "I do not, however, have a detailed theory of relevance."[27]

Moreover, his solution to the post-Gettier problem does not seem satisfactory. With respect to our example (6), he claims my belief in Tom Grabit's stealing the book ceases to be a case of knowledge as I fail to discriminate Tom Grabit's stealing the book from John Grabit's stealing the book. But when I came to know that John Grabit is a figment of imagination, then I am credited with knowledge. Since it is not a genuine alternative, the question is whether my initial belief is a case of knowledge. If it is, then I had knowledge prior to discrimination, and I do not have knowledge when I fail to discriminate, and again I am credited with knowledge when I come to know that John is a figment of imagination. It is doubtful whether the original justification has been restored or a new justification has been smuggled into the original one. Moreover, if an imaginary or non-existent entity is introduced in the relevant alternatives, then again I will cease to have knowledge if another relevant alternative is constructed. Hence it might be difficult to establish the very possibility of knowledge in view of relevant alternatives. For this reason Goldman's theory cannot solve either the Gettier or the post-Gettier problem.

(E)　　Problem cases for Reliabilism:

In his paper 'Epistemic Folkways and Scientific Epistemology', Goldman[28] tries to identify the concept of justified belief with the concept of belief obtained through the exercise of intellectual virtues (excellences). To quote Goldman:

> "Beliefs acquired (or retained) through a chain of 'virtuous' psychological processes qualify as justified; those acquired partly by cognitive 'vices' are derogated as unjustified."[29]

According to Goldman, virtuous psychological processes include belief formation based on sight, hearing, memory and reasoning in certain ways,

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among others. But vices include belief formation based on guesswork, wishful thinking, etc. He explains the virtuous belief forming process by reference to their reliability. Hence, again he refers to the concept of reliability. In this paper Goldman mentions some well-known problem cases for standard versions of reliabilism. Let us consider the following cases:

7. Suppose a Cartesian demon gives people deceptive visual experiences which generate false beliefs. These beliefs are vision-based and the visual processes involved in these beliefs are similar to our visual processes. As regards justification, Goldman says:

   "For most epistemic evaluations, this seems sufficient to induce the judgment that the victims' beliefs are justified. Does our account predict this result? Certainly it does."[30]

From this remark it follows that the standard versions of reliabilism are not adequate to handle such cases. This is due to the fact that they rely on internal processes for justification, and justification is not considered as a qualifier of truth or true beliefs.

8. Consider the clairvoyance example, which has been repeatedly mentioned by Goldman and Bonjour, among many other epistemologists. Suppose a person possesses the power of clairvoyance. Suppose he believes that the Prime Minister of New Zealand is in Auckland, and it happens to be true. Similarly, whenever he believes that the Prime Minister of New Zealand is in Christchurch, the Prime Minister happens to be in Christchurch.

Regarding this example, Goldman, in his paper on 'Reliabilism', says: 'The clairvoyance example challenges the sufficiency of reliabilism. Suppose a cognitive agent possesses a reliable clairvoyance power, but has no evidence for or against his possessing such a power. Intuitively, his clairvoyantly formed beliefs are unjustified, but reliabilism declares them justified.'[31] But in his paper on 'Epistemic Folkways and Scientific Epistemology,'[32] Goldman claims that clairvoyantly formed beliefs are nonjustified. Hence they are neither justified nor unjustified.

(F) Solutions from the Nyāya Perspective:

Now I would like to discuss how the Nyāya would handle the Gettier and the post-Gettier counterexamples as well as the two problem cases for reliabilism.

With respect to the first counterexample of Gettier, the Nyāya philosophers such as Udayana would claim that the conclusion of this inference is false. Therefore, it cannot be a case of knowledge. The belief or the cognition of Smith expressed by the sentence 'The person who will get the job has ten coins in his pocket' can be expressed in the following way:

> 'The person who will get the job being identical with Jones has ten coins in his pocket.'

This is due to the fact that the conclusion is derived from the belief that Jones is the person who will get the job, and Jones has ten coins in his pocket. Since Smith got the job and has ten coins in his pockets, the belief of Smith is false. Since this sentence can be used to express different beliefs, we are not simply concerned with the truth of the sentence, but with the belief expressed by this sentence. In this case the belief it expresses is false.

With respect to the second counterexample of Gettier, it is a case of belief, truth and justification, but not a case of justified true belief, where justification is a qualifier of true belief. The belief (or cognition) expressed by the sentence 'Jones owns a Ford or Brown is in Barcelona' is true by virtue of the fact that Brown happens to be in Barcelona. Since it is deduced from the premise 'Jones owns a Ford,' it is in accordance with the rules of logic. If 'justification' means 'being derived from premise(s) by applying the rules of logic,' then it has justification. Hence justification comes from the fact that it is derived from 'Jones owns a Ford.' Since Jones does not own a Ford, the truth of the conclusion does not come from the premise 'Jones owns a Ford.' The truth of the conclusion comes from the fact that Brown is in Barcelona but its justification comes from the fact that it is derived from 'Jones owns a Ford.' Hence justification has nothing to do with its truth. Therefore, justification is not a qualifier of its truth. If the truth of the conclusion were derived from the truth of 'Brown is in Barcelona,' then it would have been a case of justified true belief. In other words, if 'Brown is in Barcelona' were the premise, then the conclusion would have been a case of justified true belief. Hence this counterexample of Gettier lacks justified true belief, although it is true and has justification. This is analogous to the truth of the sentence 'The man with a red iron mask is in this room.' This sentence cannot be claimed to be true by virtue of having a man in this room, an iron mask in this room and a red object in this room. Hence from the Nyāya point of view justification is a qualifier of true belief. Here justification means some sort of guarantee for its truth.

As regards the post-Gettier counter example (3), the Nyāya claims that a physical object is not inferred from its look. Our sense-organs are related to the physical object, and the latter is one of the causal conditions

of perceptual cognition or belief. Since there are both real barns and barn facades, our sense-organs are related to both. If we know the mode (or the limitor) under which a barn facade is presented, then we can discriminate a real barn from a barn facade. A limitor, according to the Nyāya, is a mode of presentation of the object(s) and it uniquely determines the referent(s) of a term. In this example, John has cognized both a real barn and a barn facade. Since he cannot discriminate a real barn from a barn facade, he has not cognized the mode under which a real barn is presented and the mode under which a barn facade is presented. Since John believes that these are barns while some of them are barn facades, his belief cannot be said to be true. Hence it cannot be treated as a counterexample.

As regards (4), the Nyāya would claim that our sense-organs are related to both the ball and its red colour as it is red. Moreover, both the objects and the relations between objects and sense-organs are causal conditions for perceptual cognitions. If the red colour of the ball is presented under the mode of redness which is its limitor, then it would be a case of knowledge. If a person knows redness that determines red colours only, and not the reflection due to red light, then he can discriminate a real red colour from the reflection of red colour, which is due to illumination of red lights. Hence the Nyāya claims that if the red colour is presented under the mode of redness, then the perceiver would be able to discriminate and his/her cognition would have the status of knowledge. On the contrary, if he/she cannot discriminate, then the truth of the belief that the ball is red lacks justification.

As regards example (5), the Nyāya claims that Jones does not satisfy the criteria for being an *āpta* (authority or trustworthy person). A person is an *āpta* iff (a) he/she has a true cognition of what he/she says, (b) he/she selects the appropriate expressions to convey his/her true cognition, (c) he/she is not lying, and (d) his/her sense-organs that are causal conditions for utterance or inscription do not suffer from any defect or weakness.[33]

In this case, Jones does not know that he has won a car in a lottery. Hence he ceases to be an āpta or a trustworthy person. For this reason his utterance cannot be considered as a source of valid cognition, although the sentence he has uttered is true and the sentence would generate a true cognition in the hearer. Since there is no guarantee or justification for the true cognition generated by his utterance, it does not have the status of knowledge.

As regards example (6), the Nyāya claims that if Tom Grabit is presented to me under the mode of a unique property, then I would be able to identify him in every situation. Hence there would be no relevant alternatives

which would defeat my knowledge-claim. If Tom Grabit is cognized under the mode of a unique property which will distinguish him from all other individuals, then there would be guarantee for the truth of the belief that Tom Grabit has removed the book from the library. If there is a guarantee for the truth of this belief, then there cannot be a true defeater. Hence it rules out the possibility of true defeater defeater regress.

As regards example (7) of Goldman, it is neither a case of perception nor is it a case of testimony. Obviously, it is not a case of an inferential cognition as it is not derived from a mark (*hetu*). Hence it does not come under any sources of valid cognition. It is to be remembered that, according to the Nyāya, the object of cognition, the sense-contact with the object and the contact with the qualified object of the form *a* being *F* are causal conditions of a true perceptual cognition. Since these conditions have not been satisfied, this example cannot be treated as a case of true perception. Again, since the demon wants to deceive us, he fails to satisfy the conditions for being an *āpta* or trustworthy person. Hence it cannot be a case of testimony.

With respect to example (8), it may be said from the Nyāya point of view that the reliable clairvoyance power is not a case of perception, including the Yogic perception, or inference, or testimony. Hence it is not derivable from any valid sources of cognition. The beliefs of the agents who have clairvoyant faculty lack justification, although they are true. Hence these beliefs do not have the status of knowledge.

From the above discussion it follows that the Nyāya theory of sources of valid cognition (*pramāṇas*) can handle both the Gettier and the post-Gettier type of counterexamples. Moreover, the Nyāya theory can answer some of the questions raised by contemporary philosophers such as Goldman. In this context it is to be noted that the Nyāya philosophers have accepted four sources of valid cognition (*pramāṇas*). It is also to be noted that there is a substantial difference of opinion among the schools of Indian philosophy as to the sources of valid cognition. For the Cārvaka (a type of materialist) philosophers, perception is regarded as the only source of valid cognition. The Bauddha and the Vaiśeṣika philosophers accept both perception and inference as sources of valid cognition. The Sāṃkhya, Rāmānuja and Bhāsarvajña accept perception, inference, and verbal testimony; the Nyāya accepts perception, inference, comparison, and verbal testimony. But the followers of the Prabhākara school of Mīmāṃsā accept presumption in addition to the four sources accepted by the Nyāya. The followers of the Kumārila Bhaṭṭa school of Mīmāṃsā and the Advaita Vedānta accept non-apprehension (*anupalabdhi*) in addition to the previous five sources

of valid cognition. The followers of the Purāṇas accept two more, namely, entailment (*sambhava*) and tradition (*aitihya*). The followers of the Tantra accept gesture and posture (*ceṣṭā*) in addition to the eight other sources of valid cognition. The Jaina philosophers have accepted two more sources of valid cognition, namely, the use of a type of counterfactual conditional (*tarka*), and memory (*smṛti*).

Since the Nyāya philosophers do not accept presumption as a source of valid cognition, it is reduced to an "agreement in absence" type of inference (*vyatirekī-anumāna*). Similarly, non-apprehension is reduced to perception, entailment to inference, tradition to verbal testimony, and gesture (or posture) to inference. But *tarka* (the use of a type of counterfactual conditional) is not reduced to an inference. It gives rise to an inference and thereby becomes auxiliary to an inference. Similarly, memory is not reduced to some other source of valid cognition. But the truth of a memory-cognition depends upon the truth of a previous apprehension that is derived from perception, inference, comparison, or verbal testimony. Unlike the Bauddha philosophers, the Nyāya does not reduce comparison or verbal testimony to inference.[34]

According to our positive thesis which is based on the intuitions of the Nyāya system, knowledge is a justified true belief if justification is taken as a qualifier of true belief. Hence justification is not a property of belief independent of truth. The word 'justification,' in this context, means 'some sort of guarantee for the truth of a belief.' Since a true belief is a result of a process, it is justified in terms of certain features of the process which guarantee its truth. In other words, it is justified in terms of certain causal conditions which are not identical with the conditions of its truth.

Moreover, if there is justification for the truth of a belief, then the believer can identify or discriminate the fact which corresponds to this belief. The process which guarantees the truth of a belief is repeatable and objective. It can be used to generate a similar belief in others. Hence if I know that *p*, then you can also know that *p*. Since the process guarantees the truth of a belief, if I know that *p*, then I *cannot* be wrong.

Furthermore, there are different types of knowledge depending on the sources such as perceptual, inferential, or verbal. Hence there are different types of processes and different types of justification depending on the sources. Even if the sources are different, the content of a perceptual, inferential, and a verbal cognition may be identical. But the ways our mental states are related to the same content are not the same. In order to describe the content of a perceptual cognition the Nyāya uses the pairs:

anuyogī – pratiyogī (first term – second term)

ādhāra – ādheya (substratum – superstratum)

viśeṣya – viśeṣaṇa (qualificand – qualifier)

viśeṣya – prakāra (qualificand – relational qualifier).

But in the case of a verbal cognition the Nyāya uses the following pairs:

viśeṣya – viśeṣaṇa (qualificand – qualifier)

viśeṣya – prakāra (qualificand – relational qualifier)

uddeśya – vidheya (subject – predicate).

The explanation of an inference for others involves the pair *pakṣa–sādhya* (the locus of inference – probandum) in addition to all the five pairs mentioned above.[35]

G)   The Nyāya on Knowledge:

The Nyāya philosophers have discussed the conditions or causal conditions of cognition, conditions of a true cognition, conditions of a false cognition, and conditions which justify the truth of a cognition. The causal conditions involved in the process are not exclusively internal. Hence some conditions are external.

The Nyāya claims that there are both a set of positive and a set of negative causal conditions of perception. The perceiver (the self), the internal sense-organ (*manas*), the external sense-organs (such as eyes), the objects of perception, the sense-object contact, etc., are positive causal conditions. In addition to these causal conditions, there are certain negative causal conditions. In this context it is to be noted that the Sāṃkhya philosophers have mentioned the following negative causal conditions of perception, some of which have been accepted by the Nyāya:

a.   Not being too far (*atidūratābhāva*);

b.   Not being too close (*atisāmīpyābhāva*);

c.   Absence of loss of sense-organs, such as deafness, blindness, etc. (*indriyanāśābhāva*);

d.   Not being inattentive (*mano'navasthānābhāva*);

e.   Not being too subtle (*sūkṣmābhāva*);

f.   Not having intervening objects such as wall, screen, etc. (*vyavadhānābhāva*);

g.   Not being overshadowed (or covered) by a more powerful object (*abhibhavābhāva*), e.g., during the day, stars are not visible as they are overshadowed by the rays of the sun;

h.   Not being mixed up with similar objects (*samānābhihārābhāva*), e.g., rain water cannot be perceived in a lake or a river separately as it is mixed up with similar objects.

But the Nyāya philosophers have not treated all of them as negative causal conditions.

They would consider only (a), (b), (g) and (h) as negative causal conditions. The remaining four will be considered positive. Therefore the third one will be normal sense-organs instead of absence of loss of sense-organs. The fourth one will be attentive instead of not being inattentive, and the fifth one having some magnitude (*mahatva*) instead of not being too subtle. The sixth one is to be rejected as negative on the ground that the sense-object contact is a positive causal condition. Hence the Nyāya philosophers would consider only (a), (b), (g) and (h) in the above list as negative.

In the case of an ordinary perceptual cognition sense-organs are special instrumental causes (*karaṇas*), and the sense-object contact is the operation (*vyāpāra*). The technical terms '*karaṇa*' and '*vyāpāra*' may be defined in the following way:

(i) x is a *vyāpāra* (operation) of the effect E iff (Ey) (y is a cause of E and x is a cause of E, but x is due to y).

(ii) x is a *karaṇa* (special instrumental cause) of the effect E iff x is a causal condition, x is related to the locus of E through an operation, and it is considered as a cause due to this relation only.[36]

Let us consider the following example of the Nyāya philosophers:

The floor has a pot. In this case our visual sense-organ is the special instrumental cause, and the contact between the visual sense-organ and the floor is the operation. Since our sense-organ is related to the floor, it is also related to the pot which is on the floor. Since the cognition that the floor has a pot is due to a sense-organ, it is considered as perceptual. In this case the objects of cognition such as the floor, the pot and the relation of conjunction are related to the cognition. Hence the cognition is also related to all these items. The cognition will be related to these items even if it is false. Hence in terms of the relation between these items and the cognition alone we cannot draw the distinction between a true and a false cognition. When

a perceptual cognition is true, our sense-organ is related to the qualified object. In the above example, our visual sense-organ is not only related to the floor, but also to the floor that is qualified by a pot on it.

Hence the cognition generated by this process will be related to the qualified object or the fact. The relation of the cognition to the fact is called '*viśiṣṭa viṣayatā*,' which is a relational property of the object of cognition. The cognition is characterized by the converse of this relational property, which is called '*viśiṣṭa viṣayitā*'. Thus a true perceptual cognition presupposes certain additional conditions.

A false perceptual cognition could be due to a defect (*doṣa*) or an inappropriate causal condition (*kāraṇavaiguṇya*). A defect (*doṣa*) is the negatum of a negative causal condition of a true perceptual cognition, but an inappropriate causal condition (*kāraṇavaiguṇya*) is the weakness of a positive causal condition of a true perceptual cognition such as a defective visual sense-organ or the absence of a positive causal condition of a true cognition such as blindness or loss of a visual sense-organ. So a visual perception could be false due to distance (*dūratva*), which is the negatum of a negative causal condition of a true cognition. Similarly, it could be false due to weakness of the visual sense-organ or due to the absence of the visual sense-organ.

In our above example, if the cognition is true, then it is related to the floor, the pot, the relation of conjunction, and the qualified object, i.e., the floor qualified by a pot on it.

The causal conditions of this perceptual cognition would include the relation of the visual sense-organ to these items. But, in addition to these relations of the cognition to its objects, the Nyāya philosophers have accepted the relation of the cognition to universal floorness and the relation of the cognition to universal potness. Now the question is, what is the need for these additional relations?

In this context it is to be noted that some contemporary epistemologists claim that identification and discrimination are necessary for knowledge. On Goldman's theory, if S knows that p, then S can discriminate the truth of p from relevant alternatives. In his system these alternatives are counterfactual. But his theory cannot explain why a person, say Smith, is able to discriminate the truth of p from relevant alternatives, but another person, say Jones, is not able to discriminate the truth of p from relevant alternatives. The Nyāya can explain this phenomenon in terms of the relation of Smith's cognition to the universal floorness and the universal potness which are limitors of a floor and a pot respectively.

Since Smith's sense-organ is related not only to the floor and the pot, but also to their limitors, his cognition is related to these limitors as well. Since the cognition of limitors can explain our ability to discriminate, there is a need for these limitors in epistemic contexts.

Similarly, in the case of an inference,[37] the Nyāya philosophers have discussed the causal conditions of an inferential cognition (*anumiti*), the causal conditions of its truth or falsehood, and the causal conditions which justify the truth of an inferential cognition or the ability to discriminate. An inference, according to the Nyāya, has three terms, namely, *sādhya* (probandum), *pakṣa* (locus of inference), and *hetu* (probans, or reason). The term *sādhya* refers to what is to be inferred. The term *pakṣa* refers to the locus of inference where there is some doubt about the presence of *sādhya*. The term hetu refers to the reason by means of which the *sādhya* is inferred in the *pakṣa*. In this context it is to be noted that an inference for others, according to the Nyāya, involves five members, which are related to each other by the relation of relevance. Relevance is a relation between the contents of expressions or sentences *via* some questions.[38]

Let us consider the following inference for others:

Thesis (*pratijñā*): The mountain has a fire.

Reason (*hetu*): Because of smoke.

Example (*udāharaṇa*): Wherever there is smoke, there is fire, as in a kitchen, etc.

Application (*upanaya*): The mountain has smoke which is pervaded by fire.

Conclusion (*nigamana*): Therefore, the mountain has a fire.

This inference has the following form:

Thesis (*pratijñā*): a is G.

Reason (*hetu*): Because of F.

Example (*udāharaṇa*): Wherever there is F, there is G, as in b, etc.

Application (*upanaya*): a has F, which is pervaded by G.

Conclusion (*nigamana*): Hence a is G, or G is present in a, where a is the locus of the inference (*pakṣa*), F is the probans, G is the probandum, b is the locus where G is known to be present (*sapakṣa*).

An inferential cognition, according to the Nyāya, has certain instrumental causal conditions (*nimitta-kāraṇas*) such as *parāmarśa* (operation), *vyāpti*

jñāna (cognition of invariable concomitance between the probans and the probandum), and *pakṣatā* (a special relational property of the locus). An inferential cognition (*anumiti*) is usually defined in terms of *parāmarśa* (operation). *Parāmarśa* (operation) is the cognition of the property of being the pervaded which appears as the qualifier of the probans which is present in the locus (*vyāpti-prakāraka-pakṣadharmatā-jñāna*). In other words, an inferential cognition of the form '*a* is *G*' is derivable from the cognition of the form '*a* is *F* which is pervaded by *G*', where a is the locus, *F* is the probans, and *G* is the probandum.The latter is a causal condition of the former. But the truth of the inferential cognition does not depend on this causal condition. Hence the truth of the cognition a is *G* does not depend on the cognition of a is *F* which is pervaded by *G*. The truth depends on the fact that the locus which is cognized in the operation is characterized by the probandum.

Now the question is whether a true inferential cognition would assume the status of knowledge. In this context it is to be noted that a false operation such as 'the mountain has fog which is pervaded by fire' might lead to the true inferential cognition 'the mountain has fire.' Since the occurrence of a false cognition can be prevented by a true one, the occurrence of the above false operation can be prevented by the true cognition that fog is not pervaded by fire. If the occurrence of the operation is prevented, then the occurrence of the inferential cognition which is due to this operation would also be prevented. In other words, if a person knows that fog is not pervaded by fire, then he would not use this operation to infer that the mountain has fire. For this reason the Nyāya would claim that the above true inferential cognition does not have the status of knowledge. In other words, if the inferential process which leads to a true cognition contains a false cognition, then the true inferential cognition does not have the status of knowledge.

The Nyāya philosophers have also discussed our ability to discriminate in the case of inferential cognition. Consider the following inference:

a. Wherever there is blue smoke, there is fire.

b. The mountain has blue smoke.

c. Therefore, the mountain has fire.

In this inference the conclusion follows from the premises, and both the conclusion and the premises are true. Now the Nyāya raises the question whether the cognition expressed by the sentence 'wherever there is blue smoke, there is fire' is such that the property of being the pervaded residing in blue smoke which is signified by the expression 'wherever' is limited by blue smokeness or by smokeness only. In other words, the question is

whether the property of being the pervaded is presented under the mode of blue smokeness (i.e. blueness and smokeness) or under the mode of smokeness. If it is presented under the mode of blue smokeness, then the person, who has inferred the mountain has fire from the above two premises, would not be able to infer the same conclusion from the cognition of 'the mountain has black smoke.' On the contrary, if he/she would have inferred 'the mountain has fire' from 'wherever there is smoke, there is fire, and the mountain has smoke', then he/she would be able to infer 'the mountain has fire' from the observation of black smoke as well. This is due to the fact that the mode of presentation of the property of being the pervaded signified by the expression 'wherever' is smokeness, not blue smokeness. Since the property of being the pervaded residing in any smoke, blue or black, is limited by smokeness, the cognitions expressed by sentences such as 'wherever there is blue smoke, there is fire,' and 'wherever there is black smoke, there is fire' would be true. In other words, if the property of being the pervaded is cognized under the mode of smokeness, then it reveals an ontological property of smoke, blue or black. Hence the cognition of smoke as qualified by smokeness, not as qualified by blue smokeness, gives us a guarantee for making similar inferences. Therefore, a person is able to infer fire from any smoke, blue or black, if he/she has cognised the property of being the pervaded under the mode of smokeness. Hence the Nyāya not only emphasizes our ability to discriminate in the case of inference, but also explains this ability in terms of the cognition of certain properties. In this case, it is the cognition of the limitor of the property of being the pervaded which resides in the probans.

With respect to a verbal cognition (testimony) also, the Nyāya philosophers have discussed its causal conditions, the causal conditions of its truth or falsehood, and the causal conditions which justify its truth .

The special instrumental cause (*karaṇa*) of the cognition of the meaning of a sentence is the cognition of the words contained in it, and the operation of this cognition is the memory-cognition of the referents of the words. According to the Nyāya, the cognition of the meaning of a sentence, as distinct from the cognition of the meanings of its parts, lies in cognizing the relation between the referents of its parts which are sets of expressions. Hence the cognition of the meaning of the sentence 'a flower is red' lies in cognizing the relation of a red colour to a flower. If the sentence is true, then it would generate a true cognition, and the cogniser would apprehend the relation which holds between a red colour and a flower. If the sentence is false, then it would generate a false cognition, and the cogniser would apprehend a relation which does not hold between a red colour and a flower,

but which holds between some other objects such as between a red colour and a table. Now the question is whether a true cognition generated by a true sentence has the status of knowledge. On this point the Nyāya claims that it would be a case of knowledge if the true sentence is uttered or inscribed by an *āpta* (a trustworthy person). This is due to the fact that a true cognition generated by the utterance of an *āpta* has justification. Therefore, it has the status of knowledge.

From our above discussion it follows that knowledge is justified true cognition or belief, provided justification is a qualifier of true cognition or belief. A true cognition is justified by certain perceptual causal conditions, or by certain inferential causal conditions, or by certain verbal causal conditions. Hence the Nyāya technique for justifying a true cognition may be used for interpreting or explicating the meaning of the word 'knowledge.'

From the above discussion it also follows that the Nyāya philosophers have treated justification as a qualifier of true belief, and have emphasized the sources of valid cognition, which will explain why certain true beliefs have justification. Moreover, the Nyāya explains the ability to discriminate an object or a set of objects in terms of the cognition of limitor(s). This explanation allows us to solve some problems of contemporary Western philosophy.

Belief and Doubt

In this section I shall discuss the Nyāya conception of belief as well as doubt. Since there is no proposition as distinct from a sentence, beliefs are considered true or false. Moreover since the Nyāya philosophers could also accept the definition of knowledge as justified true belief, I'd like to focus on the Nyāya concept of belief. Moreover, the Nyāya discussion of belief suggests solutions to some problems of belief in the Western philosophy. Since belief, according to the Nyāya, is a doubt-free cognition, I shall explain the Nyāya concept of doubt as well.

The importance of belief has been emphasized very widely in Western philosophy in which it is considered as the central problem. To quote Russell:

> Belief…is the central problem in the analysis of mind. Believing seems the most 'mental' thing we do, the thing most remote from what is done by mere matter. The whole intellectual life consists of beliefs and of the passage from one belief to another by what is called 'reasoning'. Beliefs give knowledge and error; they are the

vehicles of truth and falsehood. Psychology, theory of knowledge and metaphysics revolve about belief, and on the view we take of belief our philosophical outlook largely depends.[39]

Ramsey also claimed that a belief is "a *map* of neighbouring space by which we steer."[40] So he attributes two characteristics to a belief: it is a map, and it is something by which we steer. I would like to claim that the set of beliefs of a person represents his/her form of life. It determines the entire mental life of a person, including emotions, feelings and attitudes.

There are four views in Western tradition concerning the category to which belief belongs: (i) Belief is a faculty of mind; (ii) it is a disposition of the believer; (iii) it is a conscious occurrence in the mind of the believer; and (iv) it is a mental state of the believer's mind. Since I would like to focus on the nature of belief-sentences, in this paper I do not intend to discuss the category to which belief belongs. However, I consider belief as a mental state of the believer, dispositional or conscious.

In this section I shall discuss A) contemporary theories of belief; B) the Nyāya concept of doubt; and C) the Nyāya explanation of belief-sentences.

A)   Contemporary Theories:

There are six approaches to the problems of belief-sentences in contemporary Western philosophy, which I will outline below.

Suggestions for the sixth approach can be found in Russell's *The Problems of Philosophy*,[41] but this approach has not been developed either by Russell or by his followers to solve the problems of belief-sentences. In the context of our discussion of the Nyāya view, we shall see how the Nyāya view is related to some of the suggestions of Russell, and how the Nyāya philosophers can give an account of belief-sentences without postulating either propositions or sentences or intensional entities such as concepts or images as contents of our beliefs. Moreover, following the Nyāya technique we shall explain the difference between different types of belief-sentences. Furthermore, we shall see how the Nyāya philosophers would restrict the principles of substitutivity and existential generalisation in the context of belief-sentences.

a)   One of the approaches to belief-sentences may be attributed to early Wittgenstein, who writes:

> It is clear, however, that '*A* believes that *p*', '*A* has the thought *p*' and '*A* says *p*' are of the form "*p*" says *p*'. (*Tractatus* 5.542).[42]

Since this approach eliminates belief as an entity from our ontology, it would not be acceptable to those who would consider belief as a new phenomenon which is not reducible to any other fact or entity. In this context, the remark of Russell is worth quoting. He says: "I have got on here to a new sort of thing, a new beast for our zoo."[43] Hence the view of Wittgenstein is not acceptable to a philosopher who is not already committed to his assumptions.

b)   The second approach reduces a belief to a set of behaviour. This approach has been followed by pragmatists such as James and Dewey, some American realists, and other behaviourists. According to this view, if a person believes something, then he behaves in a certain fashion. Either we identify a belief with a set of behaviour in the case of strong behaviourism or we correlate a belief with a set of behaviour in the case of weak behaviourism. With respect to the view of James and Dewey, Russell says:

> When I believe a proposition, that means that I act in a certain
> fashion, that my behaviour has certain characteristics, and my
> belief is a true one if the behaviour leads to the desired result and
> is a false one if it does not.[44]

From this remark of Russell's, it follows that the *meaning* of a belief-sentence is to be identified with the meaning of a sentence about behaviour.

The Rylean approach is not identical with the above type of behaviourism, although there is some close affinity between these two views. According to Ryle, a belief-sentence, taken literally, has made a category mistake. But if it is taken as a dispositional statement, not descriptive of something, then it is ultimately reducible to a hypothetical statement about our behaviour. Since this view is also committed to many dubious assumptions about the nature of mind (or self) or human being, it will not be acceptable to those philosophers who are not already committed to those assumptions.

c)   Another approach to the problems of belief-sentences is to be found in Frege, and this approach has been defended by Church. Frege says:

> In indirect (oblique) discourse we speak of the sense, e.g., of the
> words of someone else. From this it becomes clear that also in
> indirect discourse words do not have their customary nominata;
> they here name what customarily would be their sense. In order to
> formulate this succinctly we shall say: words in indirect discourse
> are used indirectly, or have indirect nominata. Thus we distinguish
> the customary from the indirect nominatum of a word; and its
> customary sense from its indirect sense.[45]

From this remark of Frege, along with his other remarks about belief, it follows that in the sentence

(1) John believes that Shakespeare is the author of *Waverley*,

the proposition expressed by the sentence (or subordinate clause) "Shakespeare is the author of *Waverley*" is the content of his belief and it is the nominatum in this context. Now the question is, if the customary sense becomes the nominatum, then what would be the sense of this customary sense which is the indirect nominatum? Since the sense of a sentence is a function of the senses of its terms, in the above example the sense of "Shakespeare" would be a part of the sense of the sentence "Shakespeare is the author of *Waverley*," which is the subordinate clause in (1). If the sense of "Shakespeare" is the author of *Hamlet* and if this sense is a part of the proposition which is the indirect nominatum, then we require the sense of this sense in an indirect context. If we consider a proposition as one indivisible unit, then also we can ask about the mode of its presentation, which will be the indirect sense of it in an indirect context. Fregean scholars, including Dummett, find it difficult to give a straightforward answer to this question.[46]

Secondly, another difficulty, which Carnap[47] thinks to be the greatest complexity of the Frege-Church method, is that there are infinitely many senses of an expression depending on the context of its use. Moreover, this type of proposition theory of belief ends up with the postulation of both eternally true and false propositions. According to the upholders of this view, corresponding to a true proposition such as 2 + 2 = 4, there will be an infinite number of false propositions, such as 2+2=5, 2+2=6, etc. For this reason many contemporary philosophers such as Tarski[48] and Quine do not accept an intermediary entity such as proposition in addition to concrete things and expressions.

d) According to another approach, the content of a belief is a sentence, or belief is a relation between a person and a sentence.[49] Let us consider the sentence

(2) John believes that the earth is round.

If a sentence is the content of John's belief, then (2) is interpreted as

(3) John believes 'the earth is round'.

But if belief is a relation between a person and a sentence, then (2) is to be interpreted as

(4) John has the relation B to the sentence "the earth is round."

On either of these interpretations we cannot derive

(5) John believes that *die Erde ist rund*,

or any other sentence which is synonymous with (2).

If we apply this view to a sentence such as (6) John believes in Shakespeare, then we have to paraphrase it in such a way that a sentence follows the verb "believes". But if we do not paraphrase it, then either we fail to give an account of such sentences, or we have to claim that belief is also a relation between a person and a word or the content of belief could also be a word, in addition to a sentence.

Since this view is very restrictive in the sense that it rules out the possibility of belief in animals, newborn babies and in persons who do not speak or understand any sentence, it may be rejected on this ground.

e) According to another view what occurs in a belief context is neither an expression nor its sense, but a vivid conception of an object. Kaplan calls it "vivid name". He says:

> Our most vivid names can be roughly characterized as those elaborate descriptions containing all we believe about a single person. Such names will almost certainly contain inaccuracies which will prevent them from actually denoting anyone.[50]

From this remark of Kaplan it follows that a vivid name need not always be referential. A referential vivid name for a person, say Ralph, symbolized as "R(α , x, Ralph)" fulfils the following conditions according to Kaplan:

(i) α denotes x,

(ii) α is a name of x for Ralph,

and

(iii) α is (sufficiently) vivid.

By introducing a distinction between a merely vivid name and a referentially vivid name, Kaplan explains Quine's distinction between sentences such as

(7) Ralph believes that Ortcutt is a spy,

and

(8) There is a person Ortcutt such that Ralph believes him to be a spy.

In (7) merely a vivid name of Ortcutt will occur in the belief of Ralph, whereas in (8) a referentially vivid name of Ortcutt will occur. (8) is symbolized as

(9) $\exists \alpha$ [R(α, Ortcutt, Ralph) & Ralph B ⌜α is a spy⌝]

Since the name 'Ortcutt' does not occur referentially in (7), it does not

imply the existence of Ortcutt. What occurs in the content of a belief is neither an expression, nor the sense of an expression, but another type of entity. In order to characterize this type of entity Kaplan says:

Many of our beliefs have the form: "The color of her hair is --", or "The song he was singing went --", where the blanks are filled with images, sensory impressions, or what have you, but certainly not words. If we cannot even *say* it with words but have to print it or sing it, we certainly cannot believe it with words.[51]

Since the postulation of intermediary entities such as images can give a better explanation of belief-sentences than the postulation of sentences or expressions as contents of belief, Kaplan favours the former approach to the problems of belief-sentences. But if belief-sentences can be explained without postulating the intermediate entities of Kaplan, then he cannot claim that his theory is better than one which does not postulate intermediate entities. In the context of the Nyāya view I shall discuss a theory of this type.

f) There is still another approach to the problems of belief-sentences, which has been proposed by Russell, but not followed or refined or extended by other philosophers. Since the view of Russell has some affinity with that of the Nyāya, it will pave our discussion for the latter and hence it is worthy of consideration.

Russell, in "The Philosophy of Logical Atomism," claimed that in a belief-sentence there are at least two verbs. Let us consider his example.

(10) Othello believes that Desdemona loves Cassio.

Here the verbs "believes" and "loves" have occurred as genuine verbs, and the verb in the subordinate clause seems to relate Desdemona to Cassio; but in fact it does not do so. He says,

This is what constitutes the puzzle about the nature of belief. You will notice that wherever one gets to really close quarters with the theory of error one has the puzzle of how to deal with error without assuming the existence of the non-existent.[52]

Now the question is how to explain the nature of (10) without postulating non-existent love as an entity, which will relate Desdemona to Cassio. Moreover, Russell claimed that "loves" should be treated as a verb. This requirement leads to the rejection of his earlier view proposed in *The Problems of Philosophy*,[53] where (10) has been analysed as a four-place relation between Othello, Desdemona, loves, and Cassio. Hence (10) is to be analysed as

(11) B (Othello, Desdemona, loves, Cassio).

Since the verb "loves" in (11) is on a par with the terms "Desdemona" and "Cassio," this analysis does not fulfil one of the above requirements of Russell. Mark Sainsbury, one of the recent commentators on Russell, has pointed out a few more shortcomings of Russell's earlier view, as proposed in *The Problems of Philosophy*. He says:

> ...the *PP* (*Problems of Philosophy*) theory of belief is defective in that it makes all belief *relational* and all occurrences of names in the believed-sentence transparent. A further difficulty is that it is hard to see how the theory is to be extended to cases in which the believed-sentence is non-atomic.[54]

As an explanation of what Sainsbury means by `relational belief' he makes the following comment:

> Let us say that a sentence built on the following lines attributes a *relational belief*: "A believes, concerning ..., that it is -----" (where the pronoun picks up the reference of what fills the dots). The place occupied by the dots is referentially transparent: "A believes, concerning *t*, that it is *F*," together with '*t = s*', entails "A believes, concerning *s*, that it is *F*."[55]

From the above remarks of Sainsbury it follows that Russell's account of belief-sentences in *The Problems of Philosophy* cannot draw the distinction between *de re* and *de dicto* belief-sentences; it makes all names transparent; and it is difficult to apply to non-atomic belief-sentences. In spite of these shortcomings, I think, Russell's great contribution lies in the view that what occurs in a belief-sentence is not a proposition, but the constituents of a proposition, and in his suggestions that a satisfactory theory of belief should not postulate non-existent objects and should not reduce the verb in the subordinate clause to a term. In the context of our discussion of the Nyāya we shall see how the Nyāya philosophers have avoided the shortcomings of Russell's theory and at the same time followed the suggestions of a satisfactory theory of belief.

B) The Nyāya Concept of Doubt:

Since the Nyāya claims that belief is a doubt-free cognition, I would like to discuss the Nyāya conception of dubious cognition. Moreover, the Nyāya analysis or conception of doubt may also solve some problems of Western philosophy or add a new dimension to Western philosophy, as the Nyāya claims that a dubious cognition rests on certainty.

Doubt, according to the Nyāya, is a type of invalid (false) cognition. A dubious cognition can be expressed by the form 'Is x F or G?', where x is the property-possessor, F and G are mutually incompatible properties. Since F and G are mutually incompatible, one of them may be the absence of the other. Hence it may be stated as 'Is x F or not F'. As regards the number of alternatives in a dubious cognition, such as "Is it a stump or a human being?", there is some difference of opinion among the Nyāya philosophers. But all of them have accepted the thesis that there are at least two mutually incompatible alternatives in a dubious cognition. It is to be noted that a dubious cognition cannot be identified with a question. A question presupposes the cognition of one of the alternatives. For example, the question "Is it a stump?" presupposes the cognition of stump only. But a dubious cognition presupposes the cognition of both the alternatives. Moreover, in a question there is desire to know; but not a state of doubt, although there may be desire to know afterwards.

From the Nyāya conception of doubt it also follows that there is certainty about the property-possessor in a dubious mental state. Hence the dubious cognition of the form "Is x F or G" presupposes certainty with respect to x. Therefore, we do not doubt the existence of x. The property-possessor may be an object of doubt in another mental state, where it is one of the alternatives. Hence a doubt presupposes certainty or rests on something which is free from doubt.

When I doubt the colour of the table in the mental state "Is the table brown or red?", I do not doubt the existence of the table. Again, when I doubt the existence of the table, I presuppose something else. For example, consider a mental state of doubt "Is there a table or a bed in this room?" In this case, I presuppose the existence of the room. Hence there cannot be universal doubt, even if there is doubt about any specific thing or set of specific things. Moreover, there is no dubious mental state without presupposing something certain. Hence the Nyāya concept of doubt rules out universal scepticism. We may doubt almost *anything*, but not *everything*, and every dubious state has some element of certainty.

The Nyāya has classified doubts into four types depending upon the causal conditions of their origins. One of them is due to the observation of some common property or properties of the referents of 'F' and 'G', and the non-observation of any specific or unique property of the referents of 'F' and 'G'. Consider again, for example, "Is it a stump or a human being?" The observation of common properties, such as identical or similar heights and widths, will give rise to the memory-cognitions of the alternatives that are causal conditions of a dubious cognition.

The second type of dubious cognition is due to the observation of an uncommon property. An uncommon property is something which is known to be not present in the known alternatives. For example, "Is sound eternal or non-eternal?" In this case, soundness is known to be not present in both eternal objects such as the soul and in non-eternal objects such as a pot. If this type of doubt is expressed in the form "Is x F or G?," then one of the causal conditions of this type of doubt is that x-ness or the property of being x is not known to be present in the known examples of F or G.

The third type of dubious cognition is due to the understanding of the meanings of the words which have occurred in contradictory or contrary sentences. This type of doubt will arise in those who are not committed to one of the alternatives or who do not have certain cognition of one of the alternatives. Consider now, for example, the dubious state "Is mind physical or spiritual?" or "Is soul eternal or non-eternal?" The Vedāntins claim that the soul is eternal, but the Buddhists claim it to be non-eternal. If a person is not committed to one these views, or convinced by the arguments of the Vedāntins or the Buddhists, then he/she will doubt whether the soul is eternal.

The fourth type of doubt is due to doubt about the truth of a cognition, as in the doubt "Is the cognition of a chair in this room true or false?" This doubt implies doubt about the presence of a chair in this room. In other words, doubt about the truth of a cognition would give rise to doubt about the content of this cognition. Hence a higher type of doubt would imply a lower type of doubt if these doubts are arranged in an hierarchical order. Here too the Nyāya discussion of doubt can also be integrated with the mainstream of Western philosophy and answer some of its questions about doubt.

C) The Nyāya on Belief-Sentences:

Now I would like to discuss the Nyāya view which, unlike Russell, does not reduce all belief-sentences to *relational* belief-sentences, which does not postulate some intermediary entities such as propositions or non-existent entities in the case of false beliefs. Moreover, the Nyāya view does not reduce a verb to a term, or treat all names as transparent. Let us begin with the Nyāya analysis of the sentence:

(i) John believes that Shakespeare is the author of *Waverley*.

In this sentence, according to the Nyāya, we are not talking about Shakespeare or the author of *Waverley*, but about the belief of John, which is a mental state of John, and which is related to the self by the relation of inherence in the ontology of the Nyāya. Before discussing the nature of this

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belief let us discuss its content, which consists of what Russell called "the constituents of a proposition," which are things or objects in the world. In the content of this belief there are three major elements, viz., Shakespeare, the author of *Waverley*, and the relation of identity which has not been mentioned by the word "identity." In the content of this belief, Shakespeare is the qualificand, the author of *Waverley* is the qualifier, and the relation of identity is the qualification relation. Since these elements are the contents (or objects) of this belief, they have the property of being the content (*viṣayatā*).[56] In other words, the property of being the content is the relation of a belief mental state to a content (or object). Relational properties such as *viṣayatās* are introduced by the Nyāya philosophers for, amongst many other things, semantical analyses of sentences and for drawing the distinction between the cognitions generated by sentences such as "Brutus killed Caesar" and "Caesar was killed by Brutus."

As to the ontological status of these relational properties, there is some difference of opinion among the Nyāya philosophers. Some Nyāya philosophers such as Raghunātha have assigned them a separate category such that they are not reducible to any other type of entities or identifiable with anything else, while others have tried to identify them with the first terms (*anuyogī's*) of relations. But in the case of the properties of being the content (*viṣayatās*), it seems to me that these relational properties have been introduced simply to emphasize the role of the elements of the content of a belief or cognition. With reference to our above example, when we say "Shakespeare has the property of being the content," what we mean is that Shakespeare has the role of the qualificand in the content of this belief. Similarly, the author of *Waverley* has the role of qualifier, and the relation of identity has the role of qualification relation in the content of this belief. There are also other elements in its content. Since both "Shakespeare" and "the author of *Waverley*" have occurred in (i), both Shakespeare and the author of Waverley, according to the Nyāya, must be presented under some mode of presentation. In other words, the property of being the qualificand residing in Shakespeare is limited by the property of being Shakespeare, and the property of being the qualifier residing in the author of *Waverley* is limited by the property of being the author of *Waverley*. Since identity has not been mentioned, it is not presented under some mode of presentation. So we have, broadly speaking, two terms called "qualificand" and "qualifier," the relation of identity, two property-limitors or modes of presentation and three relational properties of being the content. Now the question is how to explain the relation among these elements. The Nyāya claims that they are related in the following way:

1. The property of being the qualificand residing in Shakespeare is limited by the property of being Shakespeare.

2. The property of being the qualifier residing in the author of *Waverley* is limited by the property of being the author of *Waverley*.

3. The property of being the qualifier residing in the author of *Waverley* is also limited by the relation of identity.

4. The property of being the qualificand residing in Shakespeare is determined by the property of being the qualifier residing in the author of *Waverley*.

5. The property of being the qualifier residing in the author of *Waverley* is determined by the property of being the qualificand residing in Shakespeare.

6. The property of being the qualification relation residing in identity is determined by the property of being the qualifier residing in the author of *Waverley*.

7. The property of being the qualifier residing in the author of *Waverley* is determined by the property of being the qualification relation residing in identity.

In this context it is to be noted that the above three types of relations which relate a belief to its content, viz., the property of being the qualificand, the property of being the qualifier and the property of being the qualification relation, are present in any belief, true or false. But in a true belief there is another type of relation which relates the belief to the unified content or the fact by virtue of which a sentence is considered as true. Hence a knowledge which implies a true belief involves a relation of the belief to the fact that makes the belief true. For this reason, the Gettier-type objection does not apply to the Nyāya conception of knowledge.

Now let us discuss the nature of the belief-state. As a belief is related to its contents, so are the contents related to the belief. If the above three relations, viz., the property of being the qualificand, the property of being the qualifier and the property of being the qualification relation are called R, S and T respectively, then the relation of Shakespeare to this belief is the converse of R, the relation of the author of Waverley to this belief is the converse of S, and the relation of identity to this belief is the converse of T. These are all properties of John's belief, and they are related to each other in the following way:

(a) The converse of *R* is determined by the converse of *S*.

(b) The converse of *S* is determined by the converse of *R*.

(c) The converse of *S* is determined by the converse of *T*.

(d) The converse of *T* is determined by the converse of *S*.

In other words, if Shakespeare is the author of *Waverley* is the content of John's belief, then his belief is characterised by the converse of *R*, the converse of *S*, and the converse of *T*, and they are related to each other in the above way. Hence by introducing the relations (a)-(d), the Nyāya emphasizes the unity of the belief-state. Moreover, the truth of the sentence "John believes that Shakespeare is the author of *Waverley*" does not depend on the truth of the sentence "Shakespeare is the author of *Waverley*." Now the question is, how can the belief-state of John be related to the relation of identity which does not exist between Shakespeare and the author of *Waverley*? If there is no such relation, then the converse of the property of being the qualification relation cannot characterise the belief-state of John. In reply, the Nyāya philosophers claim that the belief-state of John is related to an identity relation that is real elsewhere or elsewhen. For example, the belief state is related to the relation of identity that holds between Helen Clark and the present Prime Minister of New Zealand. Since this relation is real elsewhere and the belief-state is related to this relation, it is characterised by the converse of the qualification relation. Hence the belief-state of John is related to a real relation.
It is to be noted that, according to the Nyāya, a relation performs two functions. It can be defined in the following way:

R is a relation Df. (∃x) (∃y) (It is due to *R* that *x* appears as the qualificand and y as the qualifier in the cognition *xR*y), and (∃x) (∃y) (It is due to *R* that there is a qualified object or fact *xR*y).

It is to be noted that the *x* and the *y* of the cognition need not be the same as the *x* and the *y* of the fact. If the cognition is true, then the *x* and the *y* of the cognition correspond to the *x* and the *y* of the fact. In our above example, the relation of identity is real elsewhere or elsewhen, to which the belief-state is related. The cognizer is related to the relation of identity which holds between Helen Clark and the present Prime Minister of New Zealand. Hence one of the functions of a relation has been satisfied. Again, it is due to this relation of identity that Shakespeare appears as the qualificand and the author of *Waverley* as the qualifier in the belief-state of John. This is how the Nyāya philosophers have avoided the postulation of non-existent entities in the explanation of false beliefs. Since the Nyāya philosophers do not postulate any intermediary entities, such as propositions, images or

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vivid concepts, their explanation is simpler than the explanations of some contemporary philosophers, such as Frege or Kaplan. Moreover, unlike early Russell, the verb in the subordinate clause of a belief sentence has not been reduced to a term.

Furthermore, in terms of these relational properties, the Nyāya philosophers explain the difference between (i), namely, John believes that Shakespeare is the author of *Waverley*, and

(ii) John believes that the author of Waverley is Shakespeare.

In (ii) the author *Waverley* has the property of being the qualificand and Shakespeare has the property of being the qualifier. Hence the converse of the property of being the qualificand in (ii) will not be the same as the converse of the property of being the qualificand in (i). Similarly, the converse of the property of being the qualifier in (ii) will not be the same as the converse of the property of being the qualifier in (i). From this it follows that the truth of (i) does not entail the truth of (ii). Similarly, the truth of (ii) does not entail the truth of (i), although the truth of "Shakespeare is the author of *Waverley*" entails the truth of "The author of *Waverley* is Shakespeare" and *vice versa*. Hence the Nyāya analysis in terms of the relational properties of a belief-state explains the difference in truth-value between (i) and (ii), and consequently the difference in meaning between them.

This analysis of the Nyāya also explains why the principle of substitutivity fails. From (i) we cannot infer "John believes that the author of Hamlet is the author of *Waverley*", although the sentence "Shakespeare is the author of Hamlet" is true. Since the mode of presentation of Shakespeare is the property of being Shakespeare and the mode of presentation of the author of *Hamlet* is the property of being the author of Hamlet, we cannot derive "John believes that the author of *Hamlet* is the author of *Waverley*" from (i). But we can derive "John believes that Sir Walter is the author of *Hamlet*" from "John believes that Scott is the author of *Hamlet*" if "Scott" and "Sir Walter" refer to the same person who is presented under the same mode in both the cases. In other words, the principle of substitutivity holds good only in those cases where the terms refer to the same thing that is presented under the same mode of presentation.

Now let us consider the following sentences:

(iii)   John believes in Shakespeare.

(iv)   John believes in Pegasus.

(v)   John believes that Shakespeare exists.

(vi)   John believes that Ortcutt is a spy.

(vii)   John believes that $(\exists x)$ (x is a spy)

(viii) $(\exists x)$ (x = Ortcutt and John believes that Ortcutt is a spy)

(ix)   John believes that Ortcutt is not a spy.

(x)   John believes that Ortcutt is a spy and Ortcutt is not a
         spy.

(xi)   Tom believes that John believes that Shakespeare is the
         author of *Waverley*.

If (iii) is true, and "Shakespeare" is treated as a proper name, then
the belief-state of John is related to Shakespeare, the property of being
Shakespeare[57] and a relation which relates the property of being x to x,
where x is a place-holder for a proper name. If these three relations are
called u, v and w respectively, then the converse of these relations, viz.,
u-converse, v-converse and w-converse, would characterise the mental state
of John. If (iii) is false and "Shakespeare" is a proper name, then John thinks
of someone else, say Scott, as Shakespeare, although his mental-state is
related to the property of being Shakespeare and the relation of qualification.
Hence his mental-state is not related to the fact, namely, Shakespeare
being qualified by the property of being Shakespeare. On the contrary, if
"Shakespeare" is not a proper name but a definite description in disguise,
then the form of (iii) does not differ from that of (iv).

In (iv) the belief-state of John is not related to any winged horse. It is
related to a horse (or a unique horse), wings, and the relation of a wing to
an animal which has wings. But it is not related to the qualified object, viz.,
the winged horse. Hence the converse of the first three relations only would
characterise the belief-state of John. As his belief-state is not related to the
qualified object, the converse of this relation cannot qualify his belief. (iv)
gives us the model for the treatment of empty singular terms which have
occurred in believed-sentences or expressions.

In (v) the belief-state of John is related to Shakespeare qualified by
the property of being Shakespeare, an object qualified by the property
existence,[58] and the relation of identity. If the believed sentence is true,
then his belief-state is also related to Shakespeare as being identical with an
existent object, and the converses of these four relations would characterise
the mental state of John. This analysis also shows how the Nyāya draws
the distinction between (iii) and (v), and thereby explains the difference in
meaning between "Shakespeare" and "Shakespeare exists". In this context,
it is to be noted that the Nyāya, unlike some contemporary philosophers, has

not identified the meaning of `Shakespeare exists' with that of `Shakespeare is Shakespeare'. Similarly, the Nyāya has drawn a distinction in meaning between "The author of *Waverley*", "The author of *Waverley* exists" and "The author of *Waverley* is the author of *Waverley*".

Since (vi) can be true without implying the existence of Ortcutt or without implying Ortcutt being a spy, the Nyāya claims that the belief-state of John is related to Ortcutt, but need not be related to Ortcutt qualified by the property *existence*. This is due to the fact that *existence* is a property in the Nyāya system. Therefore, the relation to the property-posessor does not imply the relation to its properties, such as existence. The belief state is also related to a spy, and a relation of identity, but not to Ortcutt being identical with a spy. Hence the converses of these three relations would qualify the belief-state of John. This analysis also shows why the rule of existential generalisation cannot be applied to it.

(vii) could be true even if no one is a spy, and hence the belief-state cannot be related to a spy. According to the Nyāya in this case, the belief-state is related to the property *spyhood*, an existent object, and the relation of instantiation, but not to an existent object qualified by *spyhood*. Hence the belief-state is qualified by the converse of these three relational properties only. If *spyhood* is an unexemplified property, then the word "*spyhood*" cannot be treated as an atomic expression. Hence it is to be explained in terms of at least two non-empty terms, and the belief-state is related to the referents of these non-empty terms.

In (viii) the belief-state is not only related to Ortcutt, a spy and the relation of identity, but also related to Ortcutt qualified by existence. But it is not related to Ortcutt qualified by existence being identical with a spy. Hence the mental state is qualified by the converses of the first four relations only. Hence the truth of (viii) will depend on the truth of "$(\exists x)(x = \text{Ortcutt})$" but not on the truth of "Ortcutt is a spy."

In (ix) the belief-state is related to Ortcutt, the absence of *spyhood* which is present somewhere, and the relation of an absence to its possessor,[59] but it is not related to Ortcutt qualified by the absence of *spyhood*. Hence the truth of (ix) does not depend on the truth of "Ortcutt is not a spy."

As regards (x), the Nyāya claims that it cannot be made true under any condition. Since there is no contradiction anywhere, there cannot be any contradiction at the level of thought or belief-state.[60] The sentence "Ortcutt is a spy and Ortcutt is not a spy" is meaningful, but it does not generate a cognition either in a hearer or a speaker. Each of the conjuncts of this

conjunctive sentence would generate a separate cognition, but there is no one unified cognition which will correspond to this sentence. The thought of "Ortcutt is a spy" would prevent occurrence of the thought of "Ortcutt is not a spy" and vice versa. Hence these two thoughts or belief-states are related to each other by the preventer-prevented relation.[61]

(xi) describes the mental or the belief-state of Tom, and it could be true even if John does not believe that Shakespeare is the author of *Waverley* or no one believes that Shakespeare is the author of *Waverley*. In this case Tom's belief-state is related to a belief-state, not necessarily to a belief-state of John. Furthermore, his belief-state is related to the converse of the relation of a belief to Shakespeare, the converse of the relation of a belief to the author of *Waverley*, and the converse of the relation of a belief to the relation of identity. Moreover, Tom's belief-state is related to John and to the relation of inherence which relates a belief-state to its possessor in the ontology of the Nyāya. Let us use the following symbols for these relations:

> A for the relation of Tom's belief-state to some other belief-state.
>
> B for the relation of his belief-state to the converse of the relation of a belief to Shakespeare.
>
> C for the relation of his belief-state to the converse of the relation of a belief to the author of *Waverley*.
>
> D for the relation of his belief-state to the converse of the relation of a belief to an identity relation.
>
> E for the relation of Tom's belief-state to John.
>
> F for the relation of his belief-state to the relation of inherence, which relates a belief-state to its possessor in the ontology of the Nyāya.

Now the converses of these relations would characterise the belief-state of Tom. Since these converses are related to each other by the determiner-determined relation which holds between the correlative terms, the complex (E-converse, F-converse and A-converse) determines and is determined by the complex (B-converse, D-converse and C-converse). This analysis of the Nyāya shows how (xi) can be true even if John does not believe that Shakespeare is the author of *Waverley* or no one believes that Shakespeare is the author of *Waverley*.

Since the Nyāya philosophers can explain belief-sentences which contain negation, conjunction, quantifier, or which express higher-order beliefs, they can explain all types of belief-sentences in a standard language.

Now let us consider Kripke's puzzle about belief.[62] He claims that co-designative proper names are not interchangeable in belief contexts *salva veritate*. Hence one may assent to "Cicero was bald" and to "Tully was not bald", although both "Cicero" and "Tully" refer to the same person. Kripke has put forward the following example to substantiate this point. Pierre, a native of France, asserts in French (a) Londres est jolie. After moving to London from France, he assents to (b) London is not pretty.

From this example Kripke concludes that co-referential terms cannot be substituted for each other without changing the truth-value.

From the Nyāya point of view we can say that co-designative terms are interchangeable in belief contexts if they have the same limitor. Suppose Cicero has a unique and an essential property, say *F*. According to the Nyāya, the meaning of the name "Cicero" includes both the person referred to by the word "Cicero" and the limitor *F*. If "Tully" also refers to the same person under the same mode of presentation, then both of them have the same meaning. Since we are concerned with belief, we can use any language to describe it. Hence it has nothing to do with assenting to a sentence, which requires mastery over a language, including knowing the meanings of the terms. Even if a person does not know any language, we can describe his belief-state in our language. If we come to know that Pierre believes that Londres est jolie, then we can use English or any other language to describe the same belief-state. Hence we can claim that Pierre believes that London is pretty. Therefore, any synonymous expression or sentence can be used to describe the same belief. This is how the Nyāya philosophers would solve the puzzle about belief.

From the above discussion it follows that Nyāya techniques may be used to suggest new solutions to some problems of contemporary Western philosophy. It has also been shown how these techniques can solve the Gettier and the post-Gettier problems of epistemology. Since justification is considered as a qualifier of truth and truth as a qualifier of belief, we have solved one of the age-old problems of knowledge. It has also been demonstrated how the Nyāya philosophers have used epistemic relational properties, such as the property of being the qualificand, the property of being the qualifier, the property of being the qualification relation, the property of being the limitor, the property of being the determiner, the property of being the qualified object, the property of being the subject and the property of being the predicate. By using these relational properties and their converses, we can draw not only the distinction between different belief-sentences but also the distinction in meaning between sentences, such as "Brutus killed Caesar" and "Caesar was killed by Brutus". Hence the

Nyāya techniques may be used to draw the distinction in meaning between sentences which are transformationally equivalent.

Moreover, it has been shown how the Nyāya philosophers have avoided the postulation of intermediary entities, such as images or propositions, as well as universal scepticism in epistemology. Hence the Indian philosophers have not only discussed some of the problems and puzzles of contemporary philosophers such as Frege, Russell, Chomsky and Kripke, but also suggested better solutions. This is how Indian philosophy can add a new dimension to Western philosophy.[63]

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