# Some Reflections on Gettier's Problem

Golam Azam[*]

It is one of the basic problems of epistemology to define knowledge. Epistemology is one of the branches of philosophy that discusses about the definition, sources, validity and limitations of knowledge. From Socrates to till date this problem is being discussed by most of the eminent philosophers; ancient, medieval, modern or contemporary- eastern or western- Indian, Muslim, Chinese or Buddhist philosophers. Why knowledge is important, what the criterion of truth is, are also the basic issues of discussion of the philosophers of the ages. E. Gettier, an American epistemologist, published a paper of only three pages entitled "Is Justified True Belief Knowledge?" in 1963 where he challenged the age-old definition of knowledge. Traditionally knowledge is defined as 'justified true belief'. Gettier showed that these three conditions are not enough for the definition of knowledge. In this paper, Gettier's conception regarding the definition of knowledge will be analyzed and in this connection the reaction of the contemporary epistemologists will also be interpreted and analyzed. It will be showed that now a day the fundamental problem of knowledge is not to define 'knowledge' rather the problem is mainly regarding the justification of the statement of knowledge.

# I

Before the publication of Gettier's paper knowledge was widely defined as justified true belief. It is the pre-Gettier definition of knowledge. After the publication of Gettier's paper the term 'Gettier problem' has become well known to the contemporary philosophers. Gettier problems or cases are named in honor of the American philosopher Edmund Gettier. They function as challenges to the philosophical tradition of defining knowledge of a proposition as justified true belief in that proposition. The problems are actual or possible situations in which someone has a belief that is both true and well supported by evidence, yet which — according to almost all contemporary epistemologists — fails to be knowledge.

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[*] Lecturer, Department of Philosophy, University of Dhaka,

According to the traditional analysis to be a matter of knowledge, a proposition must fulfill three conditions; a) the belief condition, b) the true condition and c) the justification condition. Here it is meant as prepositional knowledge. "Prepositional knowledge is a type of knowing whose instances are labeled by means of a phrase expressing some proposition, e.g. in English a phrase of the form 'that *h'*, where some complete declarative sentence is instantiable for '*h'*."[1] According to the traditional theory of knowledge i.e. justified-true-belief (JTB), S knows that p if and only if (iff):

1) p is true
2) S believes that  p
3) S is justified in believing that  p

Here p is the prepositional function standing for any proposition. Whenever S claims that " I know that p", then this p must be true.  If he says that " I know p but p is not true" then the statement will become self-contradictory because part of what is involved in knowing  p  is that p is true. Therefore being true is the necessary condition for the statement to be a matter of knowledge. But Hospers, in this connection, contends that,

> "…the requirement, though necessary, is not sufficient. There are plenty of true propositions, for example in nuclear physics, that you and I do not know to be true unless we happen to be specialists in that area. But the fact that they are true does not imply that we know them to be true."[2]

For knowledge, there must be some subjective requirement i.e. it must be a matter of belief. Basically knowledge and belief are related to one another in a certain way. 'Knowledge requires belief but belief does not require knowledge'[3]. There may be a number of statements that someone believes but does not know to be true, but there can be not a single statement which someone knows to be true but does not believe, because believing is a part of knowing, the defining characteristic of knowing. But believing  p  is not a defining characteristic of p's being true since p can be true even though neither the subject nor I nor someone else believe it. For example, the earth is round or the earth moves round the sun, was true before anyone believed it

be so. Therefore if we say that, 'I know that p but I don't believe it' would become a self-contradictory. We must contend that believing is one of the fundamental components of knowledge.

The knowledge is not simply true belief. There may be some true beliefs that are the result of guesswork and hence cannot be a matter of knowledge. It means that an inference having no strong ground may be 1) true and 2) believed by someone, but it fails to constitute knowledge. Knowledge requires that it will satisfy a belief condition and a true condition. Along with these belief condition and true condition it also requires the justification condition i.e. the true belief that is to be qualified as knowledge must be based on good reasons or evidence. This evidence is necessary for the certainty of the knowledge. For example, if I say that " p is true, I believe that p" but I have no evidence to tell or show what I said, then it becomes contradictory. Therefore, in favour of my belief I must have some good reasons or evidence. Evidence includes a subject's beliefs as well as sensory or perceptual states. This justification is of different types, such as self-presenting, foundationism, coherentism[4] etc. Therefore, to be knowledge the proposition will be not only true or believed by a person rather it must be justified, whatever means it is. Therefore it is rightly told that knowledge is justified true belief.

*It is important to bear in mind that JTB, as presented here, is a generic analysis. It is intended to describe a general structuring which can absorb or generate comparatively specific analyses that might be suggested, either of all knowledge at once or of particular kinds of knowledge. It provides a basic outline — a form — of a theory. In practice, epistemologists would suggest further details, while respecting that general form. So, even when particular analyses suggested by particular philosophers at first glance seem different to JTB, these analyses can simply be more specific instances or versions of that more general form of theory.*

# II

Gettier himself gives two cases in order to prove his position that though the traditional conditions of knowledge provides the necessary conditions for knowledge, they do not provide the sufficient conditions for knowledge[5]. The cases provided by Gettier have been discussed hereunder:

Case-1

a) Smith has evidence that Jones will get the job and that Jones has ten coins

on basis of this Smith generalizes

b) that whoever get the job has ten coins in his pocket.

Gettier claims, in this respect, that Smith is justified in believing (b) i.e. whoever gets the job will have ten coins. Now it happens that Smith himself gets the job and has ten coins. Therefore, Smith's belief for (b) i.e. whoever gets the job will have ten coins is a matter of justified true belief. But Gettier raises objection regarding the knowing of Smith about (b). He contends that that smith doesn't know the factors that really make (b) true. The simplified for of the case may be like this:

Smith has evidence that g is K (prepositional function Kg)
Smith generalizes and concludes that *someone is K*
Smith is justified in believing that *someone is K*

Smith doesn't know that someone is K, because although someone is K, it is *f* that is K, not *g*.

Case-2

Smith has justified belief (because Smith has strong evidence for) that

(c) Jones owns a ford

Thereby logically inferred that

(d) Either Jones owns a ford, or Brown is in Boston

(e) Either Jones owns a ford, or Brown is in Barcelona

(f) Either Jones owns a ford, or Brown is in Bangladesh

As Smith logically inferred the later propositions he is completely justified in believing each of these propositions though he doesn't know where Brown is.

Now, Gettier claims that really Jones doesn't have the Ford and luckily Brown resides in Barcelona for which (e) is true. Here the example fulfills the tripartite condition[6] for knowledge i.e. (1) e is true; (2) Smith does believe that (e) is true and (3) Smith is justified in believing that (e) is true. But the fact is that Smith does not know the (e).

If we forward to analyze the case-1, we will find that, as conceived by Gettier himself, both the examples shows the lack of sufficient conditions for knowledge. The afterward assumptions made by Gettier are logically sound because using the method of induction we can infer something on basis of some evident. Thus on basis of the true event happened in case of Jones and Smith himself, he inferred the general proposition, that is to say he has the strong evidence in favour of his general proposition though in reality it was a matter of accident only.

The second case is also logically valid. The propositions inferred by Smith on basis of the proposition (c) don't break the logical rule. According to the rules of inference (the addition rule) a proposition can be added with an evident proposition[7]. Therefore when smith inferred the propositions (d), (e) and (f) he did the right as per logical rule.

We get the two major epistemological limitations within both cases. One of them is Fallibility. Fallibillism is "the idea that any of our opinions about the world or anything else might turn out false."[8] It is a method of justification. Gettier holds that the justification that is present in each case are fallible. It is obvious that it provides good feedback for the truth of the belief in question but the support or feedback provided is not perfect and enough as required. It means that the justification leaves the possibilities for the belief to be false. Without proving conclusively the justification strongly indicates that the belief is true. In case –01, there is the

possibility that someone may not get the job though he possesses ten coins in his pocket. In case –02, Brown might not be found in Barcelona. So, the conclusion of the each case is not knowledge as is fallible.

The other limitation of JTB as pointed out in the Gettier cases is the accidental occurrence. The main tenet of Gettier's introducing the cases is that an accidental belief does not qualify as knowledge. The matter of luck is contained as distinctively in each case of Gettier. In case-1, it is a matter of luck that both Jones and Smith had ten coins in their pocket each and they got the job. There is no causal relation between the facts having ten coins in the pocket and getting the job. Someone may get the job having no coins in his pocket or having less or more than ten coins in his pocket. Therefore, such conclusion as inferred logically cannot be knowledge, as objected by Gettier. In respect of case-2, luckily at that moment Brown was found in Barcelona. It may be the fact that Brown was traveling and he was taking rest in Barcelona due to some unexpected disturbance in his plane. Therefore, a proposition of luck (the conclusion) grounding on a false proposition may be logically sound but cannot be a proposition of knowledge.

Suppose Duke was traveling by bus through Northern America. The region he was going through contains a lot of fake barns; mere wooden fronts that just look like barns from the road. But he doesn't know this, and has no reason to suspect it. He looks off his right and finds something that looks like a barn, so he believes "that's a barn." In fact, it is a barn. It's one of the few barns of the region. Duke is just lucky. If he had looked at a fake barn instead, he would have believed that it was a barn. In this case, it seems that Duke's belief that he was driving by a barn is justified and also reasonable. It looks like a barn and he has never heard about a region full of fake barns. Moreover, his belief is also true. But he cannot say that he knows that he was driving by a barn. It is type of Gettier case[9].

Mr. Majid says his prayer regularly in Dhaka University Mosque. Mr. Biswas who is a faculty member of the university also says his prayer there and see Mr. Majid every time. Mr.Biswas believes that Mr. Majid is a faculty member of any of the departments of the university. Therefore, he has strong evidence that a) Mr. Majid is a faculty member, and

thereafter he assumes that b) Mr. Majid is a faculty member, or Sharmin is in Comilla , c) Mr. Majid is a faculty member, or Sharmin is in Rajshahi and d) Mr. Majid is a faculty member, or Sharmin is in Bogra. Sharmin is a Govt. employ posted in Rajshahi just day before yesterday and before that she was posted at a college in Bagerhat. Mr. Majid is not a faculty member of any department of Dhaka University rather he is a news correspondent of a quarterly Literary Magazine. But the proposition (c) is true and the result of logical deduction; Mr. Biswas' belief that Sharmin is in Rajshahi is true and also justified. But Mr. Biswas cannot say that he knows that (c).

In this way a number of Gettier problem can be constructed and cited, every of which fails to fulfill the necessary and sufficient condition of knowledge.

# III

Contemporary epistemologists showed their reaction to the Gettier problem. Some reacted positively i.e. in favour of the traditional analysis of knowledge and rejects Gettier objection, on the other hand there are a good number of contemporary epistemologists who reacted negatively i.e. in favour of Gettier but in contrast to the traditional analysis of knowledge.

Michael Clark showed his reaction against the Gettier case in his "Knowledge and Grounds: A Comment on Mr. Gettier's Paper." Here he says, "in each case (of Gettier) a proposition which is in fact true is believed on grounds which are in fact false. Since the grounding proposition in each case entails the proposition it justifies (the conclusion), and grounding proposition, although false, is justifiably believed."[10] He points out to the fact that q is false, and suggested that it is the reason why Smith cannot be said to know a proposition, each of S's grounds for it must be true, as well as his ground for his grounds, etc.. That Clark proposes a further requirement for knowledge. He requires that each of the beliefs in S's chain of inference be true. Whereas the traditional analysis of knowledge requires a fact corresponding to S's belief of p, Clark require that a fact corresponding to each of S's beliefs on which he based his belief of p.  It is due to the objection raised by Gettier.

Sara Smollett[11] observes that there is a gap in the assumption of Gettier regarding the acceptance of the justification of true belief. He contends that someone may drive a car but it does not ensure that he owns the car. He says that what we want for knowledge is not only the justified true belief but that correctly justified true belief which is based on real true not on fake true proposition. For him, the justification must be logically sound, false or inaccurate justification does not seem to satisfy the requirements of knowledge. Knowledge must involve this objective justification[12]. To have knowledge of a proposition one must have a correct, ultimately undefeatable argument. In order to know anything, we need to test the validity of our judgment. We do not want to say that we have knowledge until we have searched for additional truths, defeaters, and defeater-defeaters. He also says that,

"I am sufficiently satisfied with the definition of knowledge that I have outlined, that knowledge is objective, correctly justified true belief. I do not see how any of the Gettier examples discussed point to a problem with the definition of knowledge, because I do not think any of the examples illustrate knowledge as just defined. It seems that the real problem in the Gettier problem is not a question about whether the scenarios present knowledge or not, but whether knowledge is ever obtainable."[13]

Another group of philosophers hold that a false proposition cannot justify another proposition to be true. That a proposition p, can justify another, h, only if p is true. G. Mayer and Kenneth Stern argue that, "(c) ounterexamples of the Gettier sort all turn on the principle that someone can be justified in accepting a certain proposition h on evidence p even though p is false."[14] They contend that this principle is false and therefore the counterexamples fail. Among this group is D.M. Armstrong. He writes that,

"Gettier produces counterexamples to the thesis that justified true belief is knowledge by producing true beliefs based on justifiably believed grounds,… but where these ground are in fact false. But because possession of such grounds could not constitute possession of knowledge, I should have thought it obvious that they are too weak to serve a suitable ground."[15]

What Armstrong wants to say is that Gettier's example is defective because they rely on the false principle i.e. false proposition can justify one's belief in other propositions.

We also get reaction from Alvin Goldman. Goldman in his article '*A Causal Theory of Knowing*'[16] proposes a fourth condition for knowledge in addition to the existing three conditions. He told that in Gettier's Ford example one thing was missed and that is a causal connection between the fact that makes p true and Smith's belief of p. for him the traditional analysis of knowledge requires that there be a causal connection between p and S's belief, not necessarily that p be a cause of S's belief. p and S's belief of p can also be causally connected in a way that yields knowledge if both p and S's belief of p have a common cause. His new formulation of the analysis of knowledge is:

S knows that p if and only if the fact p is causally connected in an "appropriate" way with S's believing p.

"Appropriate" knowledge-producing causal processes include the following:
> (1) perception
> (2) memory
> (3) a causal chain….
> (4) Combination of (1), (2), and (3)[17].

He emphasized that this analysis is stronger than the traditional analysis of knowledge in certain respects. Thus as a positive reaction to the view of Gettier, Armstrong goes on to the condition of causal connectivity as a fourth condition for being knowledge of a proposition.

Chisholm, the foundationalist and one of the concrete supporters of the traditional analysis of the definition of knowledge stated his reaction in his several writings. He pointed that many a solution has been proposed to solve the problem but it is not easy to handle the problem so easily because in every case there is some logical gap. For example, some one may oppose that Gettier's 'Ford' example provides only inductive or non-demonstrative evidence and therefore it cannot be known to be true. But Chisholm holds that "… unless the things we can know are restricted to what is self-presenting or apriori, we must face the possibility that some of

the things we know have only inductive, or non-demonstrative, evidence"[18]. There are also some who tends to say that in the 'Ford' case of Gettier the concerning proposition is based on a false proposition and hence they say that if one is to have knowledge, then the evidence that one has must not confer evidence upon anything that is false. But ruling out the objection, Chisholm says that 'a proposition can be known even though what confers evidence upon that proposition also confers evidence upon a proposition that is false.' Chisholm thinks that in Gettier's cases the propositions are made evident by other proposition and therefore by method it is inductive or non-demonstrative i.e. if one proposition makes another evident, then the first proposition does not logically entail the second proposition which makes it possible that a true proposition can make a false proposition evident. Therefore, they are the cases that are "defectively evident."[19] He defines it in the following way,

h is defectively evident for S = (1) there is an e such that e makes h evident for S; and (2) everything that makes h evident for S makes something that is false evident for S.

He proposed as the forth condition for knowledge that it should not be defectively evident. But he himself rejected the view arguing that " … if we were to do this, then we would have to say, incorrectly, that Gettier's Smith does not know that e ( Jones has all times in the past …..etc") is true"[20]. Basically it is a very complicated issue and not easy to give a perfect and widely accepted solution to the problem.

The basic weakness of the traditional analysis of the definition of knowledge, as pointed out by Gettier, is that it may be fallible and it is not knowledge but a result of luck. If anyone attempts to uphold the traditional analysis of knowledge, he has to make lower the possibility of its being fallible and as a matter of luck or he may remove these weakness from the traditional analysis of knowledge or he may make lower the possibility of at least one of the weaknesses. Stephen Hetherington[21] shows at least five proposals to solve the problem raised by Gettier in respect of the analysis of knowledge. Those are the infallibility proposal, the eliminate luck proposal, the no false evidence proposal, the no defeat proposal, and appropriate causality proposal. Mentionable that, all those proposals are offered by different philosophers in different form. But none of the proposals is acceptable in the long run due to some defects. The proposals

tempted to modify the traditional definition of knowledge-the justified true belief. Accepting the usual interpretation they contend that knowledge is absent in Gettier cases. Some of the epistemologists considered this as a strong intuition regarding the absence of knowledge in Gettier cases. In this respect, Hetherington points out that,

> "Nonetheless, a few epistemological voices dissent from that approach (as this section and the next will indicate). These seek to *dissolve* the Gettier challenge. Instead of accepting the standard interpretation of Gettier cases, and instead of trying to find a direct solution to the challenge that the cases are thereby taken to ground, a dissolution of the cases denies that they ground any such challenge in the first place. And one way of developing such a dissolution is to deny or weaken the usual intuition by which almost all epistemologists claim to be guided in interpreting Gettier cases"[22].

He also mentioned that an empirical research was also done on the issue by some epistemologists where it is found as the result of the investigation that knowledge is there in Gettier cases as suggested by the general people. But here, a new question arises regarding the method of inquiry of the epistemological issues, whether it be empirical i.e. quantitative or non-empirical i.e. qualitative. Hetherington also proposes the *Knowing Luckily Proposal* which knowledge is possible even if uncommon. He holds that, 'The proposal will grant that there would be a difference between knowing that p in a comparatively ordinary way and knowing that p in a comparatively lucky way. Knowing comparatively luckily that p would be (i) knowing that p (where this might remain one's having a justified true belief that p), even while also (ii) running, or having run, a greater risk of not having that knowledge that p. In that sense, it would be to know that p less securely or stably or dependably, more fleetingly or unpredictably'.[23]

Therefore, we have found that for the knowledge we need a fourth condition. But it is yet to consensus which of the proposed conditions can be logically added to the traditional analysis of knowledge universally. We got that every proposal search for the new condition from a different look, which makes it difficult to reject one and accept the other because each proposal is logically sound and significant

# IV

What knowledge is, is a vital question throughout the age. But it is difficult to come to a consensus position regarding the nature and definition of knowledge. To my view, in respect of discussion of knowledge, the issue of justification should be emphasized most. It is because of at least two reasons; firstly, it entails the other two conditions of knowledge as characterized by the traditional epistemologists including Chisholmians of the contemporary epistemologists, and secondly, the term justification is widely used to indicate both the certainty and possibility of knowledge. Knowledge must be infallible, as hold by some of the contemporary epistemologists. To be infallible knowledge must be certain but it is quite difficult to get the certain knowledge. The criteria of the certainty of knowledge are to be analyzed thereafter. Though the Logical positivists' criterion for knowledge i.e. knowledge is to be verified, may be a criterion for certain knowledge but it fails to answer the objections raised by different philosophers of language. So, the verifiability principle cannot be the criterion of certain knowledge. Certain knowledge is only possible when the resultant proposition will not be, the result of luck or guesswork or it will be fallible or contradictory to the pre-established certain knowledge or so. But in this respect the status regarding the basic beliefs should be examined. Can those be identified as certain because they are the elementary or atomic (Russellian terminology)? All these are the questions concerning the justification of knowledge. There is a little utility to define knowledge by assigning so and so conditions for knowledge. The only criterion for knowledge is whether it ensures a sound justification or not, obviously the sound justification should necessarily include both the sufficient and necessary conditions for knowledge. So lets search such type of justification method for having certain knowledge. My view in this regard is that though the contemporary epistemologists are searching for the infallible knowledge which is not possible as conceived by them including Gettier through the traditional analysis of the definition of knowledge, how much is it possible to achieve the required infallible knowledge. There is hardly any proposition of facts which is certain and infallible. There are many scientific assertions that are now accepted as infallible, but centuries before they were not accepted as a temporary true proposition even. As for example, regarding the shape, mobility and position of the Earth in the solar system was far away from the assertions that are now evidentially exposed. But the researchers are not sure how long will their views regarding the earth be accepted as true. It may

be fallible after centuries. So there must be (or there is a) a time limit of the truth of the propositions. New scientific discoveries and discoveries of new hypothesis reject many established truths. More over, in respect of formal truth of an assertion we have to depend on logical analysis. Karl Popper, the philosopher of science who is also an epistemologist is also in a sense fallibilist, because when he says 'we do not know, we can only guess', he rejects the idea of knowledge being certain and hence knowledge is not infallible. But human attempt will continue to discover the infallible knowledge and in this respect the concept and method of justification may play the vital role. Therefore, the most significant problem of epistemology is the problem of justification not to define knowledge.

# References

[1] Jonathan Dancy and Ernst Sosa (ed), A Companion to Epistemology, Blackwell, 1997,p-396

[2] John Hospers, An Introduction to Philosophical Analysis, UK, 1973, p-145

[3] Paul K Moser and Arnold vander Nat, Human Knowledge: Classical and Contemporary Approaches, Oxford University Press, 1987, p-4

4. Note: foundationism holds that a justified belief that is not itself immediately justified must be grounded in such a way that belief in the ground, or in a ground of the ground, or in a ground of that ground is at least immediately justifiable( Odegard, D., Knowledge and Scepticism,p129, cited by Galib A. Khan, in *Some aspects of foundationalism*, Bangladesh Journal of Philosophy,V-01, 1985,Dhaka,p-45);  Coherentism holds that all justification is, in a sense, inferential and systematic. According to this view, a belief is justified to the extent to which the belief-set of which it is a member is coherent.

[5] Edmund Gettier, Is Justified True Belief Knowledge? *Analysis* 23 (1963) reprinted in *Human Knowledge: Classics and Contemporary Approaches* (ed) by Paul K. Moser and Arnold vander Nat, Oxford University Press, 1987, pp-263-265

[6] Jonathan Dancy uses the term in respect of explaining Gettier's case. See, Introduction to Contemporary Epistemology by Jonathan Dancy, BLACKWELL, 1998,pp-23

[7] See, I.M.Copi, Symbolic Logic, 9th Edition, Prentice-Hall, New Delhi, 1998, pp-34

[8] Jonathan Dancy and Ernst Sosa (ed), A Companion to Epistemology, Blackwell, 1997,p-138

[9] It's a modified example provided by James Pryor, http://www.princeton.edu/~jimpryor/courses/epist/notes/gettier.html

[10] . Analysis 24 (1963) reprinted in Epistemology*: Contemporary Readings* (ed.) by Michael Huemer, Routledge, 2002, pp.447-449

[11] http//www.yellowpigs.net/philosophy/gittier

[12] Pollock defines the objective justification as, that S is objectively justified in believing P if and only if S instantiates some argument A supporting P which is ultimately undefeated relative to the set of all truth.

[13] http//www.yellowpigs.net/philosophy/gittier

[14] G. Mayer and Kenneth Stern, " Knowledge Without Paradox"  The Journal of Philosophy 70, no 6 ( March 22,1973) p-147-160

[15] D. M. Armstrong, *Belief, Truth and Knowledge*, Cambridge, 1973, p-152

[16] Alvin Goldman, "A Causal Theory of  Knowing" *The Journal of Philosophy 64,*1967;p357-72, reprinted in *Epistemology: Contemporary Reading*(ed) by Michael Huemer,Routledge,2002

[17] Ibid,459

[18] Roderick M. Chisholm, Theory of Knowledge, 3rd Edition, Prentice-Hall of India, New Delhi, 1992, p-94

[19] Ibid, p-98

[20] Ibid, p-98

[21] See, http://www.iep.utm.edu/g/gettier.htm

[22] Ibid

[23] Ibid, Section13