A REPLY TO 'APOLOGY FOR BIVALENCE'

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Dr. Amiyansu Deb in his recently published book 'Logical Studies'[1] discusses the status of a sentence with an empty subject term and favours Russell's position (vide chapter VI Page 71, *Logical Studies*). He goes against Strawson first by pointing out the egocentric word contained in the sentence taken by Russell himself "The present King of France is bald" in his 'On Denoting'. He then rejected (i) the concept of non-bivalued logic, (ii) the concept of droping Law of excluded middle and (iii) Straswon's notion of truthvalue gaps. The purpose of this paper is to show (a) Prof. Deb's view is one sided, (b) non-bivalued semantics of Strawsonian model is possible where LEM is dropped and (c) Strawson in criticising Russell on the status of sentence with empty subject term was not at all worried about ego-centric word. Russell in his 'Mr. Strawson on Referring' said : "He (*Strawson*) admits that the sentence (with an empty subject term) is significant and not true, but not that it is false. This is a mere question of verbal convenience."[2] He continues : "For some purposes the one convention is more convenient and for others, the other. We shall prefer the one convention or the other according to the purpose we have in view." [3] Again Strawson in his 'Identifying Reference and Truth Value' said "......prima facie plausibility of the truth value gap theory is not constant for all example-cases of radical referene failure."[4] Considering the above views of Russell and Strawson it is necessary to review Russell-Strawson controversy regarding the status of a sentence with non-referring subject term and it would not be right to take the side of Russell or the side of Strawson as was done by many including Prof. Deb without considering the philosophical motives behind their theses. We shall see how both the views of Russell and Strawson are reasonable, how both represent different ways of being impressed by the fact. Our

view is that the main roots of controversy between Russell and Strawson are in the theroy of knowledge itself, for which side one chooses one ought to reflect one's belief about the status of the external world and our ability to know its nature. Broadly speaking, there are four views about the world and our knowledge about it, namely Realism, Idealim, Relativism and Scepticism. Of these four views Russell's theory fits best with Realism and Strawson's theory fits best with Relativism. If we consider Russell's theory in the light of Realism and Strawson's theory in the light of Relativism, then both the theories would appear reasonable to us.

Realism is the view that there is a world external to our thinking and that in this world there are things which have characteristics independently of our conceptualizing them, but these characteristics are finally knowable by us through the use of preceptual and conceptual methods. On the other hand, relativism admits like realism that there is an external world but unlike realism denies that the things in it have any characteristis in themselves. The relativist holds that in the world there are at least bare particulars whose apparent clothing is given by our mind. A realist is interested in reality and judges an assertion as true or false according whether it accurately reflects the nature of things or not. Russell's theory of description which deals with sentences with empty subject term is a method of turning a problematic assertion into a conjunction of sentences each of which can be interpreted as a description of a possible state of affairs in the real world. His suggestion is that if any of the conjuncts fails to describe the actual state of affairs we should judge the conjunction (assertion) as false on that account.

On the contrary, Strawson's theory of presupposition allows truth value gaps among assertions. This has the effect of relativizing truth and falsity so that their ascription turns on how our present conceptual scheme is, not on how ultimate reality is. According to Strawson an assertion is not to be viewed like a realist like Russell as a description of a possible state of affairs but rather as an act of attributing a property to the subject whose actuality is presupposed. Strawson says that in 'the present King of France is bald' what is presupposed is that our present conceptual scheme considers the present King of France to be an actual existent. Since in fact it does not exist, an assertoin expressed in 'the present King of France is bald' is neither true nor false.

Let us now develop a non-bivalued semantics of Strawsonian approach of

truth value gaps. We shall call this semantics of presuppositional logic PL. Here we have:

Primitive Constant : v, ~, T

One-place logical operators : ~, T

Two-place logical operators : v, &, ⊃, ≡, → ⇄ ⇄

The truth table of one -place logical opertors

P	TP	~P	~TP
t	t	f	f
f	f	t	t
O	f	O	t

Table - 1

Here O denotes truth value gaps. The table of ~P may be understood in the light of the notion of choice-negation. A choice negation of a proposition P will give us a falsity if P were true and a truth if P were false. But if P is truth-value less, its choice negation will also be truthvaluless. The truth operator T (to be read as 'it is true' that....) is a new connective redundant in bivalued logic. When TP is defined as the above matrix, it is clear that P and TP (it is truth that P) are not equivalent, When P is O, TP is false. This means that there is no identity of sense between P (John is tall) and TP (it is true that John is tall)obecause the latter is metalinguistic in the sense that it is not about John but about the proposition 'that John is tall'. My conception of T is developed from Timothy Smiley[5] who introduced the connective T which is governed by the rule : the value of the sentence TP shall be true if the value of the sentence P is true, otherwise it shall be false.

In PLL the interpretation of conjunction (&), disjunction (v), conditional ⊃, and biconditional (≡) are given in the following tables.

P&Q	t	f	O
t	t	f	O
f	f	f	f
O	O	f	O

Table - 2

P⊃Q	t	f	O
t	t	f	O
f	t	t	t
O	t	O	O

Table - 3

P v Q	t	f	O
t	t	t	t
f	t	f	O
O	t	O	O

Table - 4

P≡Q	t	f	O
t	t	f	O
f	f	t	O
O	O	O	O

Table - 5

It is apparent from the above tables that whenever all inputs are O, so is the outputs. Thus in our system none of the classical tautologies survive, i.e., no statement form is universally true in this system. For example 'P v ~P' is not logically true because it comes out O in the last row. In this way the Law of excluded middle (LEM) is given up in our system.

From the point of view of classical logic the consequences of droping LEM are : (i) rejection of truth functional validity and (ii) rejection of entailment.

In classical logic it is held that there is a connection between validity and logical truth : P ∴ Q is valid just in case P⊃Q is logically true. Now if we retain the classical definition of '⊃' then giving up the logically truth of P v ~ P is giving up the logical truth of P⊃P also and hence P ∴ P is not valid. Another consequence

of dropping LEM is rejection of entailment relation. In classical logic entailment is defined as logical truth of the conditional. If P⊃P is not logically true, P does not imply or entail itself.'

But in our semantics we shall retain truth-functional validity and implication by ignoring the connection between validity and logical truth of the corresponding conditional and by redefining implication (entailment). Our truth operator T regenerates truth-functional truth. For example though P v ~P is not a tautology in our semantics, T P v ~T P is a tautology. We have seen that the classical conception of entailment (implication) as logical truth of the conditional is inoperative in PL. So we need a new conception of entailment. A reflection on why the classical definition of entailment works in bivalent logic will help us to define entailment in PL.

In classical bivalent logic entailment is a relation which is transitive, reflexive but not symmetrical. Moreover, it is truth preserving and inversely falsity preserving. Given the classical truth table for the logical truth of the conditional satisfies all the five requirements of entailment relation under bivalence. What is needed is that the new conception of entailment will satisfy all these requirements.

To define entailment in PL it is helpful to consider the relation of necessitation introduced by Bas Van Fraassen. [6] According to him P necessitates Q if and only if whenever P is ture, so is Q. But this definition is not in formal semantics. Definition of necessitation in formal semantics is possible by inventing a new conncetive which stands to the requirements for necessitation in PL as ⊃ stands to the requirements for entailment under bivalence. These requrements are same as those that hold for entailment except one namely, it is not required that necessitation be inversely falsity preserving. Thus the fact that Q is false and P is not false will not rule out the possibility that P necessitates Q.

Now we can define necessitation in formal semantics with the connective by the matrix given below:

P→Q	t	f	O
t	t	f	f
f	t	t	t
O	t	t	t

Table - 6

The definition of necessitation in formal semantics is as follows:

P necessitates Q if and only if P → Q is logically true. According to this definition and the → matrix, necessitation is truth-preserving (no true statement represented by P will necessitate a false or truth-valueless statement represented by Q.) Again it is not inversely falsity-preserving. Thus if P necessitates Q and Q is false, P may be either false or truth-valueless. Moreover necessitation is reflexive because P → P is logically true. Again P → Q is definable with the help of Fraassen's non-formal definition and our T operator as ⊃TQ. This shows that necessitation is transitive and not symmetrical.

In PL entailment is a relation such that when P entails Q, if P is true, Q is also true and if Q is false so is P. The conjunction (TP⊃TQ) & (T ∼Q ⊃ T ∼ P) ought to be appropriate compound for entailment. This is equivalent in terms of necessitation to (P→ Q) & (∼ Q →∼ P). Using the symbol (arrow and arrow in opposite direction) for entailment we may express this compound as P⇄Q which has the following matrix :

P⇄Q	t	f	O
t	t	f	f
f	t	t	t
O	t	f	t

Table - 7

Definition of entailment in formal semantices of PL is as follows :

P entails Q iff P⇄ Q is logically true. According to this definition and the matrix, entailment is truth-preserving because logical truth of the ⇄ rules out the t - f and t - O cases. It is inversely falsity preserving ie., when P entails Q and Q is false, so is P. Again it is reflexive, transitive but not symmetrical.

In PL presupposition is a relation such that when P presupposes (Q, if P is either true or false, Q is true. Using the symbol ⇉ (arrow and curl arrow in the same direction) for presupposition we may express P presupposes Q as : P ⇉ Q iff (TP v T ∼p) ⊃ TQ.

In terms of necessitation presupposition may be defined as : P ⇉ Q iff

$(P{\rightarrow}Q)$ & $({\sim}P{\rightarrow}Q)$. The matrix of $P\rightrightarrows Q$ is as follows:

$P\rightrightarrows Q$	t	f	O
t	t	f	f
f	t	f	f
O	t	t	t

Table - 8

Thus presupposition is definable as : $P\rightrightarrows Q$ is logically true.

We have already noted that syntactically the constants of PL are divided into two groups namely one-place logical operator and two - place logical connectives. From their truth tables it is seen that they also are divided into two groups semantically. In one group the constants are $T{\rightarrow}$, $\rightrightarrows$, $\leftrightharpoons$, and in the other the rest. For each of the constants in the first group, whatever the input values may be the output value is always t or f. These constants eliminate O and so they are decisive constants.

In classical two valued logic validity is associated with implication and logical truth of $\supset$. But in presuppositional logic validity is associated with necessitation and logical truth of $\rightarrow$. Thus even though $P{\supset}P$ is not logically true, $P\therefore P$ is valid in PL because $P{\rightarrow}P$ is logically true. Again as validity is associated with necessitation, like classical logic, in PL also in a valid argument if the premises are true, the conclusion cannot be false. But unlike classical logic in PL there is no guarantee that in a valid argument if the conclusion is false, the premises must be false. This is because necessitation is not inversely falsity-preserving.

Next, we will see that Dr. Deb's view that the appearance of egocentric word in a sentence with empty subject terms was the source of the problem for Strawson is baseless. In fact the issue of egocentric word was raised by Russell himself. He thought that Strawson's objections against him centre on the appearance of egocentric word in the description. He takes Strawson to be saying something like the following: Russell has failed to see that words 'present' in sentences like (a) 'The present King of France is bald' are such that specification of their referents depends upon the temporal location of the speaker. This is why no straight forward traslation of such sentences as (a) in terms of conjunction of

assertions can be given.

Russell thinks that Strawson hlods that the problems occasioned by the analysis of sentences containing expressions of the form 'the so and so' are the result of their containing 'ego'centric' words and that Russell's analysis has not done justice to the words of this sort. That this is the correct version of Russell's understanding of Strawson can be seen from the fact that Russell reminds Strawson that in the analysis of his theory of description he had cited, in addition to (a) The present King of France is bald, sentences like (b) Scott is the author of Waverley and he accuses Strawson of ignoring sentences like (b) which contains no ego-centric words.

Russell suggests that Strawson's argument would have failed if Russell substituted the words 'in 1905' for the word 'present'. That Russell takes Strawson to be worried about sentences with empty subject term only when they contain and because they contain ego-centric words is evident from the challenge Russell throws to Strawson to apply his doctrine to the sentences like (c) the square root of minus one is half the square root of minus four. Russell says that even though there is no ego-centric word in the sencence (c) "the problem of interpreting the descriptive phrases is exactly the same as if there were".[7]

That Strawson was not at all worried about the occurrence of the word 'present' in descriptions of the King of France is evident from the fact that he in using the King of France example, uses as his paradigm, "the King of France is wise" in which no ego-centric word appears. In fact Russell failed to understand the main point of Strawson's argument namely the difference between what one means when one uses a cetrain referring expression and the meaning of the expression. Clearly Russell implies that it is words which denote or refer. While it is the Strawsonian position that words or expressions are used to refer.

NOTES

1.   Deb, Amiyansu   *Logical Studies,* (Anustup, Calcutta, 2000)

2.   Russell, B.   Mr. Strawson On Referring pp 338-9 in *Classics of Analytic Philosophy* ed. Ammerman. (Words within brackets are mine).

3.   Russell, B   *Ibid* p 339

4. Strawson, P. F.   Identifying Reference and Truth value p. 88 in *Logico Linguistic Paper.*

5. Sniley Timothy   Sense Without Denotation, *Analysis,* June, 1960.

6. Fraassen, B.V.   Presupposition, Implication and Self reference. *The Journal of Phil*, 65, 1968.

7. Russell, B   Mr. Strawson On Referring p 336 in *Classics of Analytic Phil.* ed. Ammerman.

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