DISCUSSION

THE NECESSITY OF THE MATERIAL CONDITIONAL

Dr. Mullatti's paper, 'The Necessity of the Material Conditional', (IPQ, 1983. pp. 329–340), is indeed a stout defence of the concept of the material conditional. It goes a long way to ward off deviant suggestions of the thinkers haunted by the spectre of the paradoxes. Yet, I believe that the paper leaves scope for discussion.

It appears to me that Dr. Mullatti, by holding, " Our intuition regarding negation – that the negation of a true statement is false, and that the negation of a false statement is true – is clear enough and is accepted on all hands " (p. 331), has taken too much for granted. This intuition claimed to be ' clear enough ' does neither appear to be *enough clear* nor *an intuition.* Dr. Mullatti's intuition is possibly based on his acceptance of the Principle of Bivalence (PB) without question. But opposition to PB comes from a number of quarters. The intuition of the intuitionists like Brouwer, Heyting and others is opposed not only to PB but also to the Law of Excluded, Middle (LEM). Aristotle looked upon PB with an eye of suspicion, though he had nothing against LEM. It is well-known that Aristotle was in favour of a truth–value–gap between truth and falsity such that the negation of a true statement could not always be false, nor that of a false statement could always be true. The statement, ' There shall be a naval battle tomorrow ', was neither true nor false for Aristotle. His argument, almost, verbatim, has been
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revived by Lukaseiwickz in modern times to rule out PB. Strawson has come to be known as provoking opposition to PB. I am sure Dr. Mullatti is well—aware of all these. What surprises me is that the learned scholar has ignored all these oppositions simply on the ground of a ' clear intuition '. What awaits and demands Dr. Mullatti's acceptance is that the verdict of our intuition is of doubtful value.

Similarly, the way conjunction is being used in truth–functional logic has also been objected to. Everett J. Nelson went so far as to propose a ban on simplification of conjoined elements. According to him, the simplification principle ' $pq \supset p$ ' and the addition principle ' $p \supset p \vee q$ ' are at the root of what is known as ' Paradoxes of Implication '. He declares, ' Needless to say, it is to ' $pq \supset p$ ' and ' $p \supset p \vee q$ ' that the so-called Paradoxes of Implication are due. " (Vide E. J. Nelson : ' Intensional Relations ', – *Mind*, 1930, p. 448) . Nelson adds, "... in view of the fact that a conjunction must function as a unity, it cannot be asserted that the conjuction of p and q entails p, for q may be totally irrelevant to and independent of p, in which case p and q do not entail p, but it is only p, that entails p ". This shows that Nelson hos an intuition opposite to that of Dr. Mullatti. Threfore, Dr. Mullatti's acceptance of the classical notion of conjunction on intuitive ground alone loses plausibility. I, for myself, never think that the position of Nelson is impervious. What I think is only that mere testimony of intuition is less than enough to restore confidendce in the impugned principles.

What is more important is that one may not like to accept the ·logical truth' claimed under (5) of his paper. All those who claim there must be a connection C between the antecedent and the consequent in all forms of conditionals will suggest a modification of (5) to (5') :

$$5'. \quad (p \rightarrow q) \leftrightarrow [(p \ \& - q) \vee - C]$$

This calls for a modification of (6) to $(6')$:

$$6'. \quad (p \to q) \leftrightarrow - [\,(p \,\&\, -q) \,v - C\,]$$
$$\leftrightarrow [\, -(p \,\&\, -q) \,\&\, C\,]$$

['C' stands for 'Connection between the antecedent and the consequent']

We cannot, therefore, hold, "... a conditional is false *if and only if* its antecedent is true and its consequent is false", as claimed by Dr. Mullatti in his paper. (Vide p. 331). Critics may demand replacement of *'if and only if*' by *'if'*.

What even the critics of the notion of material implication are obliged to accept is :

$$5''. \quad (p \,\&\, -q) \to - (p \to q)$$

or,

$$6''. \quad (p \to q) \to - (p \,\&\, -q),$$

not the equivalence laid down in (5) or (6) of Dr. Mullatti's paper. Thus, the critics may accept :

$$7'. \quad - (p \,\&\, -q) \leftrightarrow (-p \,v\, q)\, \ldots \ldots \text{ By De Morgan's}$$

Law and reject :

$$7. \quad (p \to q) \leftrightarrow (-p \,v\, q)$$

for, according to them :

$$7''. \quad (p \to q) \leftrightarrow [\,(-p \,v\, q)\, \llcorner C\,]$$

and

$$7'''. \quad (-p \,v\, q) \leftrightarrow [\,(-p \,v\, q) + C\,].$$

It is felt that Dr. Mullatti could have avoided this controversy had he not set out with a notion of negation, or conjuction, or with the logical truth laid down under (5), each of which is already a topic of lively controversy and battered by hostile attacks.

To cut the long story short, I hold that the unassailability of the notion of the material conditional is a direct consequence of the following that are likely to be acceptable to all :

(a) There are uses of conditionals of ordinary language of communication in which the antecedent and the consequent. the two consitituents, bear no connection between themselves other than that of truth–value.

Example : ' If John passes the examination, the stars will stop their movement.'

These conditionals communicate well. In this sense :

$$(\text{If } p, \text{ than } q) \leftrightarrow -(p \,\&\, -q)$$

(b) All genuiue conditionals are contraposable hypotheticals of the form : ' If..., then...', as distinct fron theticals which are non- contraposable sentences of the same form. Austinian ' If '– sentences like :

' There are biscuits in the cupboard, if you want. ' are really examples of theticals, not of genuine conditionals. (Vide, John A. Barker : ' Hypotheticals : Conditionals and Theiicals ' – *The Philosopical Quarterly,* October – 1973, vol. 23, no. 93, pp. 335–345).

(c) The type of conditionals mentioned in (a) above is built only on the common element of all genuine conditionals that are not theticals. The common element of all genuine conditionals is an assertion that the antecedent is true and the consequent is false is not the case.

(d) It is only the common element of all genuine conditionls described in (c) above that is termed ' Material Conditional ' represented by :

$$`p \supset q`$$

or,

$$`p \rightarrow q`$$

(e) Points (a)———(d) justify the equivalence :

$$(p \rightarrow q) \leftrightarrow -(p \& -q)$$

or.

$$(p \rightarrow q) \leftrightarrow (-p \vee q).$$

This notion of the material conditional is a part of our neat language of truth–functional logic. An instance of this form may or may not serve the purpose of ordinary communication which often contains elements that are non–truth–functional. It does serve the purpose of logic well. It gives elegance to the language of logic. I only uphold what Dr. Mullatti means by the concluding line of his paper :

' As such it is to be heartily welcomed, not demurred '

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ANNOUNCEMENT

The Authorities of the University of Poona have decided to abrogate INDIAN PHILOSOPHICAL QUARTERLY ASSOCIATION with immediate effect.

EDITORS.