CHAPTER 5

ALTERNATIVE INTERPRETATIONS OF
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CHAPTER 5

ALTERNATIVE INTERPRETATIONS OF
GENERAL PROPOSITIONS

A. PROBLEM WITH NULL-CLASS

Just as analysis of singular propositions is necessary for an appropriate evaluation of 2-valued logic, an analysis of general propositions is also relevant for the purpose. As the traditional 2-valued logic grew up, it developed its notion of general propositions and their oppositions, as well as different types of inferences, immediate and mediate, in which general propositions played a dominant role. General propositions are relations of classes. The possibility of null classes not only gave a jerk to our existing notions, it also challenged the efficacy of 2-valued logic itself. Logicians have tried to solve the associated problems by their theories of the existential import of propositions. What is the truth-value of a general proposition about a null class?

If all the traditional forms of proposition carry the existential commitment in respect of the class indicated by their
subject, then, if the subject class is null, the proposition must be false. Traditional logicians think that they have existential commitments. But in that case some of the laws of traditional logic itself become invalid. If the A proposition: 'All mermaids are beautiful', the E propositions: 'No mermaids are beautiful', the I proposition: 'Some mermaids are beautiful', and the O proposition: 'Some mermaids are not beautiful', all are committed to existence of mermaids, all of them become false, if there is no mermaid or the class mermaid is null. Under such circumstances A and O, as also E and I, cease to be contradictories, and I and O cease to be subcontraries, since all of them can be false together. Modern logicians, however, think that only the particular forms, I and O, carry existential commitment and the universal forms, A and E, do not. If this is so, the contradictory opposition of the traditional square of opposition can be saved, but at the cost of all else. Further, in this case, conversion by limitation, contraposition by limitation, and some of the forms of recognised syllogistic arguments, viz. Darapti, Felapton, Bramantip and Fesapo become invalid. No argument with universal premises and particular conclusion can be justified under modern interpretation just because existence does not follow from non-existence. We are now in a dilemma.
P.F. Strawson puts it in the following way, "Either the A and E forms have existential import or they do not. If they do, one set of laws has to be sacrificed as invalid; if they do not, another set has to go."

B. STRAWSON'S CRITIQUE OF EXISTING SOLUTIONS

Strawson observes that traditional logic, which is nearer to common sense, may be taken to mean by A, E, I, O forms of general propositions:

\[ fAg : \sim (\exists x) (fx \cdot \sim gx) \cdot (\exists x) (fx) \] It is false that there is an individual who is f and not-g, though there is at least one individual who is f.

\[ fEg : \sim (\exists x) (fx \cdot gx) \cdot (\exists x) (fx) \] It is false that there is an individual who is both f and g, but there is at least one individual who is f.

\[ fIg : (\exists x) (fx \cdot gx) \] There is at least one individual who is both f and g.

\[ fOg : (\exists x) (fx \cdot \sim gx) \] There is at least one individual who is f but not-g.

Modern logic agrees with the traditional, Strawson rightly

* P.F. Strawson, - Introduction to Logical Theory, P. 165.*
observes, in respect of its interpretation of I and 0 forms, but denies that the universal forms of A and E have existential import. It proposes the following formulation of A and E while retaining the traditional interpretation of I and 0:

\( fAg : \sim (\exists x) (f(x) \cdot \sim g(x)) \quad \therefore \neg \exists x \in U : f(x) \quad \text{and} \quad \sim g(x), \quad \overline{ab} = 0 \)

\( fEg : \sim (\exists x) (f(x) \cdot g(x)) \quad \therefore \neg \exists x \in U : f(x) \quad \text{and} \quad g(x), \quad ab = 0 \)

\( fIg : \quad \text{As above}, \quad \overline{ab} \neq 0 \)

\( fOg : \quad \text{As above}, \quad \overline{ab} \neq 0 \)

The new interpretation of universal forms, apart from being incapable of justifying a number of traditional arguments, as indicated by Strawson's dilemma, has a seemingly outrageous effect on ordinary language. In this interpretation, any universal proposition with an empty class as subject becomes true, irrespective of what the predicate asserts. As for example:

A - 'All angels are blind'

\( \sim (\exists x) (Ax \cdot \sim Bx), \quad \overline{A\overline{B}} = 0 \quad \text{and} \)

\( \overline{ab} \neq 0 \)
\[ E - 'No angels are blind' \]
\[ \sim( \exists x) (A x \cdot B x), \quad AB = 0, \]

both become true if there is no member in the class 'angel', or \( A = 0 \). If \( A \) has no member (ie \( A = 0 \)), then, neither \( AB \) nor \( AB \) can have members. So, \( AB = 0 \), and \( AB = 0 \), both become true statements. \( \sim( \exists x) (A x \cdot \sim B x) \) and \( \sim( \exists x) (A x \cdot B x) \) being, respectively, same as them, also become true statements. Let us, again, try to translate the following proposition according to this formula and try to determine its truth value:

\[ A - 'All circular-squares are free from self-contradiction'. \]

This proposition is obviously false. In modern logic, this is to be translated as: \( \sim( \exists x) (C x \cdot \sim F x) \), reading, 'There is nothing which is a circular-square and not-free from self-contradiction'. Now the class circular-square is a null class and so the proposition is to be treated as true. Not to speak of common discourse, even modern logicians will scratch their heads before accepting this. If this obviously false statement is to be held as true, the distinction between truth and falsity appears to be a mockery. Strawson's dissatisfaction over modern interpretation centres round this wide gap between it and ordinary
use of language. His dissatisfaction, therefore, becomes all the more justified.

Further, it may be added, if modern interpretation holds good, the epistemologist's sacred distinction between superstitious belief and knowledge appears to boil down to a superstition of unsophisticated minds. Ordinary language is full of superstitious beliefs about empty classes of ghosts, fairies, angels and unicorns, and every statement about them becomes true simply because they do not exist.

Strawson traces the defects of the modern interpretation to be a direct consequence of one or both of two facts: 'first, the statements in A and E forms, as we have interpreted them, are true in those cases where the subject class is empty; second, that statements of the I and O forms in this interpretation cannot be true if the subject class is empty'.* Credit goes to Prof. A.B. Randeria for having worked out the number of items (i.e. the laws of traditional logic) left out by the above modern interpretation to be as many as 27, while those by the traditional interpretation had been only 17.** Whatever examples have been examined so far go to prove that

** The Laws of Traditional Logic and the Interpretation problem (Indian Philosophical Quarterly, April '78) P.364.
modern logic shifted far from ordinary use of language.

Strawson, however, thinks that it is perfectly possible to find interpretations of A, E, I, and O forms for which all the laws of traditional logic hold good together. Strawson's anxiety to save the laws of traditional system may be traced to his idea that these laws are rooted in common uses of human language. He conceives two solutions to bridge the gap - one formalistic, the other realistic. It is the purpose of this chapter to examine how far his formalistic solution can go in giving an acceptable answer to the problem. I propose to analyse and study the real merits of his realistic solution in the next chapter.

C. STRAWSON'S FORMALISTIC SOLUTION

According to Strawson, the existential interpretation of all the four forms of A, E, I and O could save more laws of traditional logic than the modern interpretation could do. Strawson, therefore, decides to save the laws by improving upon the former. The great defect of this interpretation was that it failed to uphold contradiction between A and O, and E and I, as also the subcontrary relation between I and O.

Strawson in his anxiety to make fAg and f0g, and fEg and fIg, contradictories, proposes a new formal interpretation of fIg and f0g, possibly ignoring what they really mean. He argues:

Contradictory of \( \sim p \cdot q \) is \( p \lor \sim q \). So, the contradictory of \( \sim ( \exists x) (fx \cdot \sim gx) \cdot (\exists x) (fx) \) must be \( (\exists x)(fx \cdot \sim gx) \lor \sim (\exists x)(fx) \). Similarly, the contradictory of \( \sim (\exists x)(fx \cdot gx) \cdot (\exists x)(fx) \) must be \( (\exists x)(fx \cdot gx) \lor \sim (\exists x)(fx) \).

Now when translated, the four forms stand thus:

- **fAg**...
  \( \sim (\exists x)(fx \cdot \sim gx) \cdot (\exists x)(fx) \) — \( \neg \)It is not the case that there is at least one thing which is \( f \) and not-\( g \), though something is \( f \).

- **fEg**...
  \( \sim (\exists x)(fx \cdot gx) \cdot (\exists x)(fx) \) — \( \neg \)It is not the case that there is at least one thing which is both \( f \) and \( g \), though something is \( f \).

- **fIg**...
  \( (\exists x)(fx \cdot gx) \lor \sim (\exists x)(fx) \) — \( \neg \)Either there is at least one thing which is both \( f \) and \( g \), or nothing is \( f \).

- **f0g**...
  \( (\exists x)(fx \cdot \sim gx) \lor \sim (\exists x)(fx) \) — \( \neg \)Either there is at least one thing which is \( f \) and not-\( g \), or nothing is \( f \).

This manoeuvre, apart from saving the law of contradiction,
Strawson notes, saves the law that I and O are subcontraries without sacrificing any law of the traditional square of opposition. Now, under no circumstances I and O can both be false.

However, Strawson points out that this new formulation fails in simple conversion of E and I propositions. Prof. A.B. Randeria pointed out its inability in providing the validity of obverted converse of E, partial and full contraposition of A and O, as also of cames, Dimaris and Fresion.*

It may be noted that instead of attempting to prove that the meanings of A and E are respectively contradictory to those of O and I, he tries to find out the formulations that would be contradictory to A and E and calls them translations of O and I. In such a case O and I would be under no obligation to be equivalent to such formulations. Secondly, I and O are no more existential propositions. They no more categorically claim the existence of members in the class denoted by their subject term 'f'. Both the propositions, being disjunctively formulated, become true even if their second disjunct

* CP. Cit. P. 365.
\[ \sim ( \exists x) (fx) \text{ is true. In other words, they are true even if there exists no member in the class 'f'. Thus while modern logic gave a nonexistent interpretation of universal forms and retained the existential meaning of the particulars, Strawson, here, gives an existential interpretation of universal forms and a non-existential one of particular forms. In respect of A. and E. he opposes modern logic and in respect of I. and O he opposes both modern and traditional logic. Having accomplished this, Strawson thinks that the major task of construction of a new interpretation is over. What is now needed is some smoothing up. He thinks that the reason for the breakdown of the new formulations in the few cases is their lack of symmetry.} \]

\[ \sim ( \exists x) (gx) \text{ is consistent with } \forall \neg g, \text{ i.e. } \sim ( \exists x) (fx . gx). \]
\[ (\exists x) (fx), \text{ but not with its simple converse } \forall \neg f, \text{ i.e. } \sim (\exists x) (fx). \]
\[ \sim (\exists x) (gx . fx). (\exists x) (gx). \text{ Similarly, } \sim (\exists x) (fx). \]
\[ (\exists x) (gx) \text{ entails } \forall \neg g, \text{ i.e., } (\exists x) (fx . gx) \lor \sim (\exists x) (fx), \text{ but not its converse } \forall \neg f, \text{ i.e., } (\exists x) (gx . fx) \lor \sim (\exists x) (gx). \]

So, Strawson proposes his formalistic interpretation table 3 in which term-symmetry has been added to all propositions. Now, all the traditional laws of logic hold good together.

His table 3 is as follows:
A \sim (\exists x)(fx \cdot \sim gx) \cdot (\exists x)(fx) \cdot (\exists x)(\sim gx)

B \sim (\exists x)(fx \cdot gx) \cdot (\exists x)(fx) \cdot (\exists x)(gx)

I (\exists x)(fx \cdot gx) \lor \sim (\exists x)(fx) \lor \sim (\exists x)(gx)

O (\exists x)(fx \cdot \sim gx) \lor \sim (\exists x)(fx) \lor \sim (\exists x)(\sim gx)

Strawson, in this table, has conjoined existential commitments to predicate terms, as well, of universal propositions, and added non-existential possibilities of the subject and predicate classes to the particular propositions of traditional logic. So, in his final table, the universals are existential and the particulars are non-existential.

D. DOES STRAWSON'S FORMALISTIC SOLUTION SOLVE ANYTHING

It is not difficult to notice that in the name of bridging over the gap between the ordinary language and formal language, Strawson in his final table has really widened the gap. Both traditional and modern logicians agreed that ordinary statement of the form I and O had categorical existential commitments. Strawson's final table has denied this of them. 'Some men are immortal' is a true proposition, according to him, simply because nothing is immortal. This nothing short of an outrage on ordinary speech by one who claims to be a protector of it. The Law of Identity is hostile to the above formulation of Strawson.
The proposition expressing Law of Identity, 'All non-existent things are non-existent things' should now be symbolised as \( \sim (\exists x)(Nx \cdot \sim Nx) \cdot (\exists x)(N x) \cdot (\exists x)\). Here the second conjunct \((\exists x)(Nx)\) meaning, 'there exists at least one thing which is a non-existent thing' is obviously false and with this the entire proposition becomes false. But the statement 'All non-existent things are non-existent things' expressing just the Law of Identity cannot be false. The Statement, thus, becomes inconsistent with its formal interpretation.

Whether Strawson's final table has really come closer to ordinary speech may well be considered also by examining his interpretation of the proposition. \( \exists x \) according to him, should be interpreted as \( \sim (\exists x)(fx \cdot gx) \cdot (\exists x)(fx) \cdot (\exists x)(gx) \). The \( \exists x \) proposition of ordinary discourse, 'No men are perfect', should, therefore, be translated as \( \sim (\exists x)(Mx.Px) \cdot (\exists x)(Mx) \cdot (\exists x)(Px) \) reading 'There is no individual who is both man and perfect, though there is at least one individual who is man and there is at least one individual who is perfect'. Here, if nothing is perfect, then the last conjunct becomes false and along with this \( \sim i.e. (\exists x)(Px) \) the proposition itself becomes false. While saying 'No men are perfect' nobody commits
himself to the existence of perfect beings. If we say 'No creature is dead and alive at the same time', or 'No figure is a circular square' we never assert even implicitly that there are certain things which are dead and alive at the same time, or there are certain things which are circular as well as square. If we do, these propositions which are obviously true, would have to be treated as false, since there is nothing that are dead and alive at the same time or a circular square. Strawson's formalistic solution, though claimed to be an ad hoc patching up, is thus wide of the mark.