

CORRESPONDENCE

TO THE EDITOR OF *Philosophy*

SIR,

The main points of Professor Ushenko's letter in the October issue of *Philosophy* are sufficiently impersonal to call for reply. I think that if he had realized that my review of his book, *The Philosophy of Relativity*, was addressed dispassionately to the readers of *Philosophy* and not mockingly to himself, he would not have written the more extravagant passages, and I will therefore not comment on them beyond defending myself against a charge which, if it were just, would disqualify me for what I have always felt to be the serious and responsible work of book-reviewing. Professor Ushenko states that my review "contends that this book, although 'undoubtedly worth reading' for philosophers, is not a 'valuable contribution' to science. The reviewer might, of course, have made it clearer that I had no intention of contributing anything at all to science." What I said was not that the book was not a valuable contribution to science, but that "we cannot regard his book as a valuable contribution to its professed subject." Its professed subject I had already stated in these words, for which there is almost verbatim justification in the Preface: "This book, which is intended primarily for philosophers, may be described as an attempt to review the nature of physical reality in the light of the theory of relativity. To the physicist it is recommended as a possibly new interpretation of his equations." When, therefore, Professor Ushenko goes on to say that, according to me, "to say that philosophical speculation about the concepts of relativity does not contribute anything to the science of physics, is the same as saying that it is irrelevant to an understanding of the nature of physical reality," he ascribes to me notions which arise entirely from his own imagination.

But the main point is Professor Ushenko's claim that my statement (really mine this time) that "The relation of any scientific theory to philosophy is simply the relation of science in general to philosophy, and that is not at all affected by the advent of relativity" is "simply not true to facts," because "In the history of philosophy before 'the advent of relativity,' the philosophies of events in spatio-temporal relations as contrasted with the philosophies of substances in mutual transactions were not, and could not be, heard of." True: and before the advent of the electromagnetic theory of light the philosophies of electromagnetic ethers as contrasted with those of mechanical ones were not heard of; nor were the philosophies of atomic as contrasted with those of continuous energy heard of before the advent of the quantum theory. These facts do not affect my statement, which is simply that the concern of philosophy is with the procedure of science and not with the particular products which happen to be in vogue at the moment.

Professor Ushenko, for some reason which I do not understand, regards my last-quoted statement as inconsistent with my admitting "the relevancy of science to philosophy." He then proceeds to argue that relativity and solipsism are incompatible, in opposition to my statement that they were conformable with one another. This point is really important, and I venture to discuss it very briefly, since Professor Ushenko's understanding of relativity seems less complete than I was formerly willing to assume. In the language of relativity, the metric

$$ds^2 = g_{\mu\nu} dx^\mu dx^\nu, \quad . \quad . \quad . \quad . \quad . \quad (1)$$

where the values of the g 's are unspecified, represents *any possible* mechanical system whatever, described in terms of *any* system of coordinates. Now give the g 's a particular set of values. Then the resulting equation represents *one particular* mechanical system, described in terms of *one particular* system of coordinates. Next, make any mathematical transformation of coordinates (I am ignoring irrelevant

CORRESPONDENCE

mathematical minutiae, and writing in rough, but for this purpose accurate, terms), thus obtaining an equation with different values for the g 's. Then this equation represents the *same* mechanical system as before, described *either* (i) by the same observer using a different system of coordinates, or (ii) by a different observer using the "same" system of coordinates. The remaining forms of equation (1), in which the g 's have values *not* obtainable from the chosen ones by mathematical transformation of coordinates, represent *other* mechanical systems.

Now relativity makes no distinction whatever between (i) and (ii). If you are a solipsist you choose (i); if you abhor solipsism you may choose (ii); but the choice, if any, is made on grounds entirely outside physics. That is why I say that relativity is conformable with solipsism, and hold Professor Ushenko to be in error in saying they are incompatible. His remarks on "space-like and zero-intervals which cannot be observed by a solipsist for the simple reason that they transcend observation" are meaningless. The "zero-interval" between an event on the Sun and my perception of it is about $8\frac{1}{4}$ minutes and 93 million miles in the usual coordinates. It has been observed, and therefore cannot transcend observation, and in any case it has nothing whatever to do with solipsism.

Professor Ushenko's final argument shows the falseness of his position still more clearly. He says, "I can change from time to time my coordinate systems, but if I do I am not the same percipient event after such a change . . . tantamount to a rejection of the thesis of solipsism." Does Professor Ushenko really believe that if I decide to measure lengths in metres instead of in centimetres, I become another person? That is what in effect he says, because it is an essential feature of relativity that this simple change of coordinates is identical in principle with the most complex change, corresponding to the most complex motion, conceivable. Moreover, if I can change my identity in this way, who on earth am I? Professor Ushenko must surely know that according to relativity there is no one coordinate system peculiar to any one observer, but that all possible ones are (apart from convenience, which varies with the problem considered) equally legitimate. But it is unnecessary to follow the implications of this argument because it is clear enough that, true or false, this thesis concerning percipient events has nothing to do with relativity. It is held, if at all, on quite independent grounds and then applied to relativity. That is the characteristic of most of Professor Ushenko's book, and that is why I said that it was not a valuable contribution to its professed subject. It is not a philosophy of relativity; it is relativity uncomprehendingly considered in the light of an independent philosophy.

Yours faithfully,

HERBERT DINGLE.

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(This correspondence is now closed.—ED.)

TO THE EDITOR OF *Philosophy*.

DEAR SIR,

In his notice of Professor F. M. Cornford's important *Plato's Cosmology* in your last issue (p. 482), Professor G. C. Field accepts Mr. Cornford's exegesis of the difficult Platonic words (*Timaeus* 37c6) in which the $\sigma\upsilon\rho\nu\nu\alpha\sigma$ is called $\tau\omega\nu\ \alpha\iota\delta\iota\omega\nu\ \theta\epsilon\omega\nu\ \gamma\epsilon\rho\omega\nu\delta\omicron\varsigma\ \acute{\alpha}\gamma\alpha\lambda\mu\alpha$ as final. He agrees that the meaning is that the heavens are a *shrine* inhabited by "everlasting gods," who are the stars and planets. In the hope of possibly having an answer either from Professor Field or from Professor Cornford, may I state briefly the difficulties which make me still hesitate to accept the interpretation? (1) At the point which *Timaeus* has reached in his narrative, nothing has been said as yet of the existence of either stars or planets? How then can a reader be expected to guess (or how were the imaginary auditors of *Timaeus* to guess) that the "everlasting gods" means neither of the only beings who have so far been called "god" in the dialogue (the "Demiurge" and the Universe) he makes, something hitherto

PHILOSOPHY

unnamed? (2) If the text of your MSS. is correct, there is clearly an intentional antithesis between *αἰδίων* and *γεγονός*. It is meant then that the "gods" in question have a better right to be called everlasting than the "shrine," which is by contrast with them called a *γεγονός*. But how can the stars be opposed in this way to the "cosmos"? (3) While it is, of course, true that those commentators who have assumed the *ἄγαλμα* can mean nothing but an *image* are wrong, is there sufficient warrant for giving it, in any passage of classical Greek, the sense Mr. Cornford puts on it, *shrine*? Where *ἄγαλμα* in classical authors does not mean image, it seems to bear the sense of (a) *ornamentatum* or (b) *deliciae*. That it could mean *shrine* is just what needs to be shown. I should be very willing to accept the interpretation if these difficulties can be met. If they cannot, I fear I shall still impetently think the words of the passage probably corrupt (in which case the mention of "gods" is pretty certainly part of the corruption).

A. E. TAYLOR.

EDINBURGH,

October 1937.

TO THE EDITOR OF *Philosophy*

SIR,

Although not a logical positivist, I, as a physicist, have come to take up a somewhat similar view,¹ and it was, therefore, with the greatest interest that I read Professor Muirhead's criticism and Dr. Lamont's article in the October number of *Philosophy*. The more I read, however, the more I am convinced that philosophers will one day have to wear the hair shirt of science, i.e. they must define their terms. I admire Professor Muirhead's youthful attitude in refusing to give up the search for "the best," but I fail utterly to see how, without defining the word "best" we can ever get anywhere.

It has always seemed to me that "good" and "bad" applied to actions are learned when we are children and mean, roughly, "pleasing or displeasing to Papa or Mama or Nanny" and that, when we grow up, we drop Mama and Nanny and change Papa into God. But God, being a hypothetical entity, can be made to like what we please, and has, in the past, for instance, liked human slavery. At the present time it is not quite certain whether this hypothesis likes birth-control. . . . Therefore, even for those who believe in theism the question of what is a good act degenerates into the question of what is pleasing to a hypothesis, and to those who do not require this hypothesis it is meaningless.

To avoid difficulties of this sort I have found it useful to add the word "for" and use only "good for" and "bad for." Thus "Is cycling good?" (meaningless) becomes "Is cycling good for . . . ?" and then educated higher apes (such as philosophers and physicists) cannot resist the habit of completing the sentence and we get, say, "Is cycling good for the digestion?" or "Is cycling good for the bank-balances of those who have shares in cycle companies?" both of which have a meaning, since there is a large measure of general agreement as to the difference between good and bad digestions and shares.

I am entirely in agreement with Dr. Lamont that the moral philosopher is not concerned with what ought to be done ("ought" is another word with a meaning only in the nursery), but to show "how your use of this standard, or your thinking this particular type of action good, is related to other facts about your life and social and material environment" (p. 441).

This object clearly requires the establishment of true facts and relations and thus ethics becomes a part of science, and the inducto-deductive method of Francis Bacon becomes the most fundamental activity of our branch of the higher (= more complex) apes, of which a humble member subscribes himself.

Your servant,

G. BURNISTON BROWN

HAMPSTEAD,

November 1937.

¹ Cf. *The Limits of Science*, *Science Progress*, 116, p. 729. April 1935.