

April 11, 1967

Professor A. J. Ayer
New College
Oxford

Dear Professor Ayer,

Thank you for your comments on my paper on predictive performance.

I do not find it a special merit in a scientific theory that it contradicts the whole corpus of antecedent knowledge but only that it contradicts a part of it. Any theory that is incompatible with the bulk of antecedent knowledge is discarded offhand as a crackpot theory (requirement of external consistency). Furthermore I agree with you that one always tries to save as much of the old theory as one possibly can, to the point that ad hoc hypotheses are permissible to this end as long as they are independently testable. In short, I am not for maximizing originality by itself but rather the sum of originality and coverage. So far, we seem to agree.

But once several reform attempts have been tried without success, one does try to produce a radically new theory, for one has come to believe that the old theory is incapable of handling the new material. Surely, the requirement of consistency with the bulk of antecedent knowledge is still in force. But one does not require that the new theory keeps intact as much of the old stuff as is possible but rather that it gives back, to a first approximation, most and if possible all of the good old half-truths of the older theory. To make this control possible is one of the functions of the so-called correspondence principles in physics.

In short, the flow diagram seems to be this: Difficulties with a theory - Attempts to patch it up by partial reforms - Eventual failures of the reforms - Revolution, but the most conservative possible revolution, one that will keep the true formulas of the ancien régime even though it may effect a profound revolution in style (= mode of thinking).

I hope that, with these qualifications, we shall find ourselves in nearly complete agreement.

I have asked the Springer-Verlag to send you a complimentary copy of my Scientific Research, which is just out, and in which I expound a philosophy of science which is neither Carnap's nor Popper's but which comes closer to what I think is the real methodology of scientific research.

Sincerely yours,

Mario Bunge