104, Downs Court Road,
Purley, Surrey.
1957 February 11.

Dear Sir Ronald,

I have enjoyed reading your correspondence with McCrea in DISCOVERY. Much water has flowed under the bridge since you wrote; I enclose a few droplets.* But it is really all quite an unnecessary luxury, because the answer to one simple question would silence me completely and for ever, yet, strange to say, although I have appealed to one after another of the eminent persons who have written at length about inertial frames and what not, none of them will even offer the most distant comment on it. It is very disheartening.

The question is this. Which step in the following argument is wrong (please state 1, 2 or 3), and why? -

(1) According to relativity, if two bodies (e.g. two identical clocks) separate and reunite, there is no observable phenomenon that will enable one to say, in an absolute sense, that one rather than the other has moved.

(2) If, on reunion, one clock is retarded by a quantity depending on the motion and the other is not, that phenomenon would enable one to say that the first had moved and not the second.

(3) Hence, if relativity is true, the clocks must be retarded equally or not at all: in either case their readings will agree on reunion if they agreed at separation.

There are only three steps, and they are all very simple. I shall probably write to DISCOVERY inviting help from any source at all, but if you could enlighten me, or persuade McCrea to do so (which I have not succeeded in doing) I would be most grateful.

I have dealt with the matter of accelerations in the Institute of Physics article. But since the Earth is accelerated with respect to the traveller in exactly the same way as the traveller with respect to the Earth, I find it odd that the Earth clock escapes the effect while the other does not. This seems unconsciously to bewilder others also; e.g. Crawford, in NATURE, Jan. 5th 1957, claims to have proved that acceleration has no effect on the rate of a clock (but courage, he gets the sacred result all right, so all is well). But perhaps, as McCrea suggests somewhere, the difference arises from the mere presence of an engine on the space-ship, and not to the acceleration which it causes. But then, how strange it is that it can be any sort of engine at all, producing any sort of acceleration, and the retardation is exactly the same in all cases, and is a function only of the velocity of the clock when the engine is not working. What a wonderful talisman an engine must be! But I must stop, or you might be tempted to think that perhaps Dingle might be right after all, and that would be a tragedy.

(* to the library)

But I would like my poor simple little question answered. Won't you help me?

Yours sincerely,

Herbert Dingle.