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17 January 1933.

Major L. Darwin, Sc.D.,
Cripps's Corner,
Forest Row,
Sussex.

Dear Major Darwin:

I am returning Cornford's book with many thanks. I imagine he must have over-simplified the whole story very greatly, and, in consequence, that everyone was rather less original, and rather more versatile, than he is inclined to suggest. Thanks for the loan.

I am much more likely to combat than to ignore what you say about free-will, because I find it interesting and relevant, but, where conclusive, capable of a fundamentally different re-statement. Of course if determinism were axiomatic we must take the view that scientific research has not yet discovered the formulae for exact prediction. But this view, though at present possible, does certainly beg the question.

Next you say, "If man had perfect reasoning powers and knew what they wanted they would always do the same thing in

the same circumstances". Equally, if all marksmen aimed at exactly the same point, and shot perfectly, all the shots would pass through the same hole. The variation in behaviour can be regarded as compounded of two distinguishable sets of causes (i) variation in what is aimed at, and, (ii) variations due to imperfect knowledge of, or imperfect control over, the environment. On the moral plane you ^{may} say that in given circumstances there is usually one course of action which is better than any other, and that any perfectly wise and perfectly good man must choose this course. But this is not the same as saying that he is constrained to do so, otherwise the stipulation of perfect goodness could be eliminated. He can say "I feel I have no choice", but in saying this the "I" in his sentence is identified with only part of his personality. It does not include his conscience, which he is speaking of metaphorically as constraining it (the 'I'). Equally a man can say "I have a good mind to —" when everybody knows that he won't, meaning assuredly that, apart from his own considerations, loyalty, good-nature or what not, he feels perfectly free to take, and justified in taking, such a course. Intricate as such phrases are, I suggest that they emphasise the sense of personal choice rather than tend to eliminate it.

Perhaps you may say that, whatever he feels like inside, the choice of a good man is in fact determined by outside circumstances, and predictable by an outside observer from the stipulation that he must act for the best. So that the outside observer is justified in regarding him as an automaton. There are within this view at least three possibilities all perfectly consistent with human free-will: (i) The saints and angels may be automata, without men being so equally, (ii) The saints and angels may each have something of their own to contribute, as to what is good; that is they may invent new sorts of goodness, like musicians composing different melodies. (iii) Even if goodness can be defined objectively, and equally for all, they may yet be perfectly good only because they choose or have chosen to be so; the phrase to "choose to be good" merely comprehending in a single clause innumerable particular good choices.

On the intellectual side you say "If choice comes in only because of the imperfection of reasoning powers an element of pure uncertainty in the nexus between environment and action is introduced. This leaves determinism in its original commanding position, and only introduces a variation about the mean in the results". What I understand by determinism does not allow a variation about the mean, and if the original commanding position of determinism implies merely that the mean can be calculated ab exteriori then I think

determinism is left in this position, on the analogy of marriage-rates, and prediction in mechanics. A good deal seems to turn on your phrase "pure uncertainty" and on the word "fortuitous" in your sentence "If choice is to be creative it must not be fortuitous". If, in a long calculation, I introduce mistakes, I do not, of course, choose to do the calculation wrong, but I did at some stage choose to put down a 5 where I ought to have put down a 3, not realising that it was wrong. In this sense the calculation is wrong because there was something wrong about me; and there is in this case little chance of the accident being a happy one. The neuron system which blundered has probably not such a good idea of mathematics as some other neuron system, which is in charge of, and designs the whole operation. But in designing an experiment it might be otherwise. A modification which, at one stage, looked like a mistake, might at another stage look like a stroke of genius. The joint process of making the modification and recognising its merits would be creative, in very much the same way as the joint process of mutation and selection has been in biology. Choice to the mind that chooses, is, of course, never fortuitous, though what presents itself for choice may be. But to an exterior mind an aggregate of choices is a typically fortuitous system. If the probabilities of different kinds of choice were not determined by exterior circumstances I suppose the statistics

of marriage would not be in the least predictable, but if circumstances only determine these probabilities there is room for individual choice. And if they determine these probabilities only through the constitution of the human mind, or, strictly, if the only non-empirical method of calculation consisted in the enumeration of the different kinds of mind present, and the probabilities in different circumstances with which they would marry, then there is no reason to speak of the choice as other than absolutely free.

I am afraid my paper was a nasty shock to the good lady, and I don't suppose it will suit her book at all. If she decides to reject it, do you think, from a purely mercenary standpoint, that a journal like the "Hibbert" would give any thing for it?

Yours sincerely,