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The facts in question
(Entrance Examination May 1951)

Sirs,

It has, I believe, long been understood that the questions put to examinees should be practical. Bearing this in mind, some of my friends and I have attempted to reconstruct the circumstances which gave rise to the peculiar procedure laid down in Question 8 of the first paper.

You will recall that the examinee is told that from a point P, situated in one side of a square field which is completely surrounded by a roadway, three persons set out simultaneously; one runs on foot across the field to a point Q which he reaches at precisely the same time as the other two who, one on a bicycle and the other in a car, have between them circumnavigated the field. All three then return to P whence they set out again for a point R not far distant from Q.

The obvious course on leaving Q would be to proceed directly to R, thus saving time, energy and petrol (this last should, at the present time, be a paramount factor in the public interest). The mathematics of the problem could be preserved if R were placed in the same side of the field as P. Why then the return to P?

Our first thought was that the road was too narrow for the car to turn round—although the examinee may ignore the width of the road in his calculations the motorist cannot. But against this, it is extremely unlikely that he cannot turn at the corner D just a little way past Q. It seems more probable therefore that there is some attraction at P and what more likely in the surroundings postulated than a cheerful hostelry? One's mind flies back at once to the days when the Staple Inn nestled against the outer side of the City walls and faced no doubt the green fields of Lincoln and Gray. One feels certain that even in those days a jovial Mr H. (or M.) must have there dispensed comfort to those budding

actuaries who sought solace within its precincts. These thoughts bring home to us the fact that our problem has been mis-stated; it is not 'why return to P?' but 'why leave P at all?'. On these lines two suggestions have been put forward.

The first is that the runner was a pickpocket, the motorist his victim and the cyclist the village constable. The runner was arrested at Q and taken back to the inn. While the charge was being laid he escaped but was rearrested at R.

At last we thought of a solution which bears the stamp of credibility. After the motorist and cyclist had each stood a round, the runner tried to take evasive action but was taken back to the inn to fulfil his obligations. When, however, the drinks had been put up, he bilked the publican and made off. He jumped into the waiting car at R knowing that the constable on his bicycle would not arrive until after $x + 5$ seconds had elapsed and he and the motorist then continued their drive in the country.

Yours faithfully,

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