HSS317: Ethics/Assignment-7/22-April-2020/20171059/CSE

We consider L2: An event E is lucky for S if and only if it is completely beyond S's control and is relevant to S. As rightly mentioned, this definition of luck is highly vulnerable to many counter examples because the term 'relevance' is loosely defined. For instance, as given, sunrise is an event totally beyond an individual S's control. The event of sunrise is highly relevant to S as humans depend on sunlight on survival. But it would be obviously uncanny to say that the sunrise is 'lucky' for S. So how do we concretely define the term 'relevance'? How would something be both relevant and luck for an individual S?

Let us try to see a scenario where we could indubitably say that an event E is lucky for S. For instance, let's say event E refers to 'winning the lottery'. Suppose S takes part in a lottery and puts her name into the box along with two thousand odd people in the city. Now if one were to say that S is lucky because she won the lottery, that would certainly make sense. This is because there were two thousand names in the box and **the odds in her favour were one in two thousand.** Yes, S's name coming out of the box is an event beyond her control and is relevant to her. But S would be considered lucky primarily because **the probability of her winning the lottery was very low.**

We observe here that the event was considered lucky for S because the probability of the occurrence of the event was lesser than 1. Let us take a look at the sunrise example once more. Yes, the sun rising is beyond S's control and is of 'relevance' to S, but isn't considered lucky because the sun rises everyday! It is certain that the sun will rise tomorrow, that is, the **probability of sunrise is 1.** The odds are totally in S's favour already, so one cannot say that sunrise is lucky for 'S'. However, winning the lottery is, because it wasn't certain that S would win the lottery.

Another crucial observation here is that **the occurrence of event E was beneficial ONLY for the individual S and not any of the other participants.** The event E is highly 'relevant' to S as only S would benefit from it and no one else would. In case of the sunrise, it would be relevant not just for S but for all of mankind. Everyone would benefit from it, thereby reducing its relevance to S alone. Hence, we could define 'relevance' as the scenario where S and only S would benefit from E.
One can easily come up with a counter argument to this definition of relevance. Had we been living in a world where the sun would rise only twice a week, then the probability of sunrise would be 2/7. In such a scenario, if sunrise did occur, it is true that S would be lucky because she would have been able to grow her crops and obtain some Vitamin D from the sunlight. But so would the rest of the humans! Everyone on the planet would be considered lucky that the sunrise had taken place as they depend on it for survival. This is a scenario where S is not the only one benefitting from E, but still is considered lucky due to E.

So does this counter argument successfully rebut the definition of 'relevance' given above? Let us consider a hypothetical scenario where the sunlight would be visible to only one person in the world. Now if the sunrise happens and it is visible to S, then S would be considered very lucky, not only because the probability of the sunrise was less, **but also because it is benefitting only him and no other human on the planet!** Yes, it is true that in the previous scenario also S was lucky because she had access to sunlight and the odds of that were two in seven. **But in this scenario, she would be considered even luckier because it doesn't benefit anyone else on the planet.** Hence, we are able to assign a 'degree' of luck. But yes, in both the cases, people are still considered 'lucky'.

Therefore, a good definition of luck would be:
L3: An event E is lucky for an individual S if and only if the occurrence of E is beyond S's control, the probability of the occurrence of E is less than 1 and **S would benefit from E.**

(We don't include the point that it is beneficial only for S because even if it is not, S is still considered lucky. But the 'degree' of this luck would vary.)

Since we have already touched upon the 'degree' of luck, let us try to formally quantify the amount of luck. Let us assume that instead of two thousand people, around ten thousand odd people put their names into the lottery box. In such a scenario, the probability of S winning the lottery further decreases as there are more participants. Her chances are one in ten thousand, and it's completely beyond her control. Now if she wins the lottery, she would certainly be considered very lucky, It would also be correct to say that she would be luckier than the previous scenario where her odds of winning were higher due to lesser participants. **If S wins the lottery among ten thousand people instead of two thousand, she would definitely be considered luckier due to lesser probability of E in the former scenario.**

Had there been only 5 participants in the lottery, and had S won, would she be considered as lucky as in the previous two scenarios? Certainly not, because the odds of her winning are much higher here. But the probability of her winning here is 1/5 which is still less than 1. Her name coming out of the box is an event totally beyond her control and the probability of the event taking place is less than 1, so the event would still be considered lucky for S (although not as lucky as a lottery with ten thousand people).

One can notice a very distinct relation here between the probability of the event and the amount of luck one would assign to the individual S. And we have already seen that S would reconsidered luckier if only she benefitted from the event E as compared to a scenario where many people along with E would benefit from E. Hence, the amount of luck depends on:

1. The Probability of the event

2. The amount of benefit it brings.

Hence, we can concretely define 'relevance' by stating that the occurrence of an event E would be relevant to S if S and ideally only S would benefit from it, where E would be an event with an ideally low probability. The use of the word 'ideal' is because this is where the person would be considered 'most lucky'. **More the number of beneficiaries from an event E and more the probability of the occurrence of E, the lesser the individual luck is for S.**

Hence, the best option would be (c) **R/P(E).**