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Actual utility, the mismatch problem, and the move to expected utility

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Abstract The mismatch problem for consequentialism arises whenever the theory delivers mismatched verdicts between a group act and the individual acts that compose it. A natural thought is that moving to expected utility versions of consequentialism will solve this problem. I explain why the move to expected utility is not successful.

Keywords Consequentialism · Expected utility · Collective action

1 Introduction

Start by considering the following case.

> Two Shooters: You and I are sharpshooters. We shoot at an innocent victim simultaneously, our bullets striking the same fatal location in the victim's chest. Neither of us could have prevented the other from shooting, and either shot is sufficient for the victim's immediate death. The probability that the victim dies given that at least one of us shoots is 1. The probability that the victim dies given that neither one of us shoots is 0. Before we shoot, the probability that I will shoot is .99. Similarly, the probability that you will shoot is also .99. What actually happens is that we both shoot.

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There's a perplexing problem that arises for many versions of consequentialism in connection with this case.[1] According to *Act Consequentialism*, an act is morally permissible just in case there's no alternative with a better outcome. In Two Shooters, neither of us could have prevented the other from shooting. Thus, when we think about what would have happened had you holstered your weapon instead of shooting, we are to imagine a counterfactual world in which I shoot the victim just as I do in the actual world. Similarly, when we think about what would have happened had I holstered my weapon, we are to imagine a counterfactual world in which you shoot the victim just as you do in the actual world. Accordingly, Act Consequentialism fails to condemn either one of our individual acts. I don't have an alternative with a better outcome: you would shoot and instantly kill the victim even if I were to holster my weapon instead. And you don't have an alternative with a better outcome either: I would shoot and instantly kill the victim even if you were to holster your weapon instead. The victim dies no matter what either of us, individually, does. On the other hand, we could have both holstered our weapons, which would have resulted in a better outcome. We *together* have acted wrongly according to Act Consequentialism. Paradoxically, two individual rights make a collective wrong. Act Consequentialism delivers mismatched verdicts between how we act as individuals and how we act together.

It's natural to think that this problem will not arise under expected utility versions of consequentialism. Before either of us shoots the victim, the probability that the other will not shoot is .01. Expected utility versions of consequentialism make this probability relevant to the moral appraisal of our acts. Imagine that you are deciding whether to shoot the victim. The probability that the victim lives given that you don't shoot is .01. On the other hand, the probability that the victim lives given that you do shoot is 0. Thus, given some natural assumptions about the value of the consequence in which the victim dies as opposed to the value of the consequence in which he lives, the expected utility of holstering your weapon is greater than the expected utility of your shooting the victim. Similarly, the expected utility of my holstering my weapon is greater than the expected utility of my shooting the victim. According to *Expected Utility Act Consequentialism* (EUAC), an act is morally permissible just in case there's no alternative with a higher expected utility. Each of our individual acts is morally wrong according to EUAC. So it's not the case that two rights make a wrong under EUAC. The mismatch problem seems to be averted.[2]

I think that the exact nature of the problem that Two Shooters poses for consequentialism hasn't been fully appreciated. To see whether EUAC avoids the

[1] For the seminal discussion of this problem, see Parfit (1984).

[2] Jackson (1997) mentions this approach explicitly in connection with Two Shooters. Many others defend the approach in related cases. Like Two Shooters, voting cases involve an overdetermined bad outcome. Suppose that an inferior candidate wins an election by many votes. Parfit (1984, 73–74) argues that consequentialists should appeal to expected utility to explain why individuals act wrongly in voting for the inferior candidate. Factory farming also involves an overdetermined bad outcome. Suppose the same number of animals will be factory-farmed for meat whether I purchase factory-farmed chicken today. Singer (1980), Norcross (2004, 232–233) and Kagan (2011) argue that consequentialists should appeal to expected utility to explain why I act wrongly in purchasing factory-farmed chicken. For other arguments that make an appeal to expected utility in connection with bad outcomes brought about by groups, see Gibbard (19990, 26–27) and Regan (2000, 69–70).

problem, we must be clear about precisely when mismatched verdicts arise for a moral theory, and we must examine more carefully how an appeal to expected utility is supposed to head off the possibility of mismatched verdicts. In this paper I will demonstrate that, once we understand the problem of mismatched verdicts, we discover that it cannot be solved by moving to EUAC.

Here's my plan. In Sect. 2, I'll explain how I'm understanding the problem in Two Shooters, and I'll explain why it's natural to think that EUAC solves it. In Sect. 3, I'll offer a slightly modified version of Two Shooters to illustrate why EUAC fails to solve the problem. And, in Sect. 4, I'll explore an objection related to expected utility calculations and offer some replies.

2 Background

2.1 The normative appraisal of group acts

A clear understanding of the problem that Two Shooters poses for consequentialism requires that we think about the normative appraisal of group acts in a certain way. The problem arises because Act Consequentialism condemns what we together do, yet fails to condemn what each of us does individually. Thus, we should grant that groups act, at least in the following minimal sense: a group act is simply a set of individual acts. For our purposes here, we may assume that any set of individual acts composes a group act.[3] In Two Shooters, the group act is [I shoot, you shoot]. This is not to be taken as a metaphysical claim about the existence of group acts. Rather, it will be a convenient way of thinking about group acts for the sake of clarity in exposition.

An act is wrong under Act Consequentialism only if there's an alternative with a better outcome. Accordingly, if the theory condemns what we together do in Two Shooters, then we must grant that group acts have alternatives. We may assume that a group act has an alternative for any compossible combination of individual alternatives.[4] Under this way of thinking about group alternatives, we have three alternatives in Two Shooters. These are [I shoot, you holster], [I holster, you shoot], [I holster, you holster].

Finally, it is important to emphasize that the problem of mismatched verdicts cannot arise unless we are willing to grant that group acts are subject to moral evaluation.[5] Without allowing for the normative appraisal of group acts, it's hard to see why Two Shooters poses a problem. The paradoxical implication of Act

[3] Frank Jackson accepts this framework in Jackson (1987). So does Wlodzimierz Rabinowicz in Rabinowicz (1988).

[4] Why the appeal to compossibility? Suppose you and I are at the salon. I can fit into the tanning booth, and you can fit into the tanning booth, but we cannot both fit into the tanning booth. So if we both opt out of using the tanning booth, it doesn't follow that [I use the tanning booth, you use the tanning booth] is one of our alternatives. It is not a compossible combination of your and my individual alternatives. In this paper, all the examples will be ones for which all sets of individual alternatives are compossible.

[5] For arguments that some group acts are morally wrong, see Jackson (1987) and Killoren and Williams (2013).

Consequentialism is that two rights make a wrong. This cannot happen unless the group act is wrong; so we must grant that Act Consequentialism delivers some verdict on [I shoot, you shoot].

2.2 The mismatch problem

The *mismatch problem* arises for a moral theory whenever the theory delivers mismatched verdicts between a group act and the individual acts that compose it. In Two Shooters, we have an alternative with a better outcome, namely [I holster, you holster]. So our group act is morally impermissible according to Act Consequentialism. But I don't have an alternative with a better outcome. And neither do you. So you act permissibly according to Act Consequentialism, and so do I. This is paradoxical: the theory says one thing about the group act and a different thing about each contributing individual act. Thus, Two Shooters gives rise to the mismatch problem for Act Consequentialism.

The mismatch problem arises under EUAC if there's some case in which the group act has an alternative with a greater expected utility though no individual contributing act has an alternative with a greater expected utility. As I will argue in the next two sections, Two Shooters is not such a case. But it would be a mistake to conclude on these grounds that EUAC is immune to the mismatch problem. Indeed, as I will argue in Sect. 2, a slight modification to Two Shooters is sufficient to establish that moving to EUAC doesn't solve the mismatch problem for consequentialism.

2.3 Expected utility

To see why Two Shooters does not give rise to the mismatch problem for EUAC, we must understand how to calculate expected utilities. Suppose some possible act, a, may lead to several possible outcomes, $O_1, O_2, \ldots, O_n$. Suppose that for each outcome, O_i, there is an amount of value, V, associated with O_i. Suppose also that for each of these outcomes, there is a probability, $Pr(O_i \mid a)$. This is the conditional probability of outcome O_i on action a. The expected utility of a is the sum, for all these possible outcomes, of $V(O_i) * Pr(O_i \mid a)$.[6]

There are several different interpretations of $Pr(O_i \mid a)$. Intuitively, it is the likelihood that outcome O_i will occur, if a is performed. But there are at least three ways to interpret "likelihood" in the context of an expected utility calculation. It may derive from the agent's actual degree of belief in the proposition O_i *occurs given that I do* a—the credential interpretation. It may instead derive from the degree of belief in this proposition that's justified by the agent's evidence—the evidential interpretation. As a third option, it may derive from the objective chance that O_i occurs given that the agent does a—the objective interpretation. For now, I'll conduct the discussion in a neutral way. I'll assume that the probabilities specified in Two Shooters can be understood under the credential, evidential, and objective

[6] I take this formulation of expected utility from Feldman (2006).

interpretations. For simplicity of exposition, I won't defend this assumption until Sect. 3.[7]

Calculating the expected utility of my shooting the victim and my not shooting the victim in Two Shooters will serve as an illustration of the concept of expected utility. There are two possible outcomes in the case: either 1 dies, or 0 die. Each of these gets assigned a value. Say that

$$V(1 \text{ DIES}) = -1$$
$$V(0 \text{ DIE}) = 0.$$

The conditional probabilities are specified by the case. The probability that the victim dies given that at least one of us shoots him is 1. So

$$Pr(1 \text{ DIES} \mid \text{I SHOOT}) = 1$$
$$Pr(0 \text{ DIE} \mid \text{I SHOOT}) = 0$$

Thus, the expected utility of my shooting the victim is

$$eu(\text{I SHOOT}) = (-1)(1) + (0)(0) = -1$$

On the other hand, the probability that the victim dies given that I don't shoot is given by the probability that you shoot, .99. So

$$Pr(1 \text{ DIES} \mid \text{I HOLSTER}) = .99$$
$$Pr(0 \text{ DIE} \mid \text{I HOLSTER}) = .01$$

Thus, the expected utility of my not shooting the victim is

$$eu(\text{I HOLSTER}) = (-1)(.99) + (0)(.01) = -.99$$

These calculations allow us to see that $eu(\text{I SHOOT}) < eu(\text{I HOLSTER})$. That means that I have an alternative to shooting with a higher expected utility. According to EUAC, I act wrongly if I shoot. Mutatis mutandis, EUAC condemns your shooting the victim as well.

2.4 Group acts and expected utility

Recall that Act Consequentialism delivers a verdict of moral permissibility on each of our individual acts in Two Shooters. EUAC, on the other hand, delivers verdicts of individual wrongdoing. This, I take it, is what leads people to think that EUAC is equipped to solve the mismatch problem. It's important to notice, however, that

[7] There's also a temporal dimension to $Pr(O_i \mid a)$ that's important to keep in mind. Suppose we operate under the credential interpretation of expected utility. Then $Pr(O_i \mid a)$ may vary through time. I might believe firmly in the proposition *O_i occurs given that I do a* one moment, but become doubtful about this same thing just a moment later. In Two Shooters, I might have a credence of .99 in the proposition *the victim dies given that I holster my weapon* before you shoot the victim, and a credence of 1 in this same proposition after you in fact shoot him. For this reason, I will assume that the calculation of expected utilities in Two Shooters is to occur in the moments before we fire our weapons.

demonstrating that EUAC locates individual wrongdoing in Two Shooters does not establish that EUAC resolves the mismatch problem. In order to establish that, we would need to calculate the expected utility of our group act and each of our alternatives. We would need to see that [I shoot, you shoot] has a lower expected utility than at least one of our alternatives (presumably [I holster, you holster]). For only then would we have established that EUAC delivers the same verdict at the group and individual levels.

Does it really make sense to suppose that group acts have expected utilities? If group acts do not have expected utilities, then EUAC cannot resolve the mismatch problem. [I shoot, you shoot] is impermissible under EUAC only if at least one of our group alternatives has a higher expected utility. And [I shoot, you shoot] is permissible under EUAC only if none of our group alternatives has a higher expected utility. So if our group alternatives lack expected utilities altogether, then EUAC does not deliver a verdict on our act. Assume that some acts are neither permissible nor impermissible. Call such acts *morally undefined*. If group acts do not have expected utilities, then [I shoot, you shoot] is morally undefined under EUAC. But then Two Shooters produces a mismatch problem for EUAC. The theory says one thing about the group (morally undefined behavior) while saying a different thing about each individual (morally wrong action). Thus, if EUAC is to resolve the mismatch problem, we must assume that group acts have expected utilities.

In a later section, I'll discuss some complications that arise under the credential and evidential interpretations of expected utility. These interpretations seem to require that groups have credences in propositions, and furthermore that groups have evidence that justifies credences. I'll return to this issue in Sect. 4. For now, we can read off the conditional probabilities from the case. As stipulated in Two Shooters, the probablity that the victim dies given that at least one of us shoots is 1. So

$$Pr(1 \text{ DIES} \mid [\text{I SHOOT, YOU SHOOT}]) = 1$$
$$Pr(0 \text{ DIE} \mid [\text{I SHOOT, YOU SHOOT}]) = 0$$

Thus, the expected utility of [I shoot, you shoot] is

$$eu([\text{I SHOOT, YOU SHOOT}]) = (-1)(1) + (0)(0) = -1$$

The probability that the victim dies given that neither one of us shoots is 0. So

$$Pr(1 \text{ DIES} \mid [\text{I HOLSTER, YOU HOLSTER}]) = 0$$
$$Pr(0 \text{ DIE} \mid [\text{I HOLSTER, YOU HOLSTER}]) = 1$$

Thus, the expected utility of [I holster, you holster] is

$$eu([\text{I HOLSTER, YOU HOLSTER}]) = (-1)(0) + (0)(1) = 0$$

which shows that $eu([\text{I SHOOT, YOU SHOOT}]) < eu([\text{I HOLSTER, YOU HOLSTER}])$. That means that EUAC condemns what we together do in Two Shooters. So there's no mismatch of verdicts. EUAC says that our group act is impermissible and it says that each individual act is impermissible as well. Thus, we see that EUAC resolves

the mismatch problem in Two Shooters provided that group acts have expected utilities.

3 The mismatch problem for EUAC

3.1 The case

EUAC doesn't resolve the mismatch problem for a simple modification of Two Shooters. Let's imagine that there's an even worse outcome than the death of the victim that would come about were only one of us to shoot.

> Two Shooters+: Same as Two Shooters, but our guns are connected to an explosive device that lies beneath us. The device will explode just in case only one of us shoots the victim; if both of us shoot the victim, or if neither of us shoots the victim, the device will not explode. Since there is a probability of .99 that you will shoot the victim, the probability that the device explodes given that I holster my weapon is .99. Accordingly, the probability that the device explodes given that I shoot the victim is .01. So the conditional probabilities are these:

$$Pr(3\ \textsc{die} \mid \textsc{I holster}) = .99$$
$$Pr(0\ \textsc{die} \mid \textsc{I holster}) = .01$$
$$Pr(1\ \textsc{dies} \mid \textsc{I shoot}) = .99$$
$$Pr(3\ \textsc{die} \mid \textsc{I shoot}) = .01$$

> Since there is a probability of .99 that I will shoot the victim, the probabilities are similar if we consider your options:

$$Pr(3\ \textsc{die} \mid \textsc{you holster}) = .99$$
$$Pr(0\ \textsc{die} \mid \textsc{you holster}) = .01$$
$$Pr(1\ \textsc{dies} \mid \textsc{you shoot}) = .99$$
$$Pr(3\ \textsc{die} \mid \textsc{you shoot}) = .01$$

> We together have four options corresponding to the four possible group acts: [I shoot, you shoot], [I shoot, you holster], [I holster, you shoot], and [I holster, you holster]. And given the aforementioned features of the case, the probabilities are these:

$$Pr(1\ \textsc{dies} \mid [\textsc{I shoot}, \textsc{you shoot}]) = 1$$
$$Pr(3\ \textsc{die} \mid [\textsc{I shoot}, \textsc{you holster}]) = 1$$
$$Pr(3\ \textsc{die} \mid [\textsc{I holster}, \textsc{you shoot}]) = 1$$
$$Pr(0\ \textsc{die} \mid [\textsc{I holster}, \textsc{you holster}]) = 1$$

It's important to emphasize that the only difference between Two Shooters and Two Shooters+ is the addition of a worse possible outcome in the latter case. Our options remain the same: each of us can either shoot or holster. The probabilities on our individual acts remain the same: there's a probability of .99 that you shoot the victim and a probability of .99 that I shoot him. The best that we could together do remains the same: no one would die if we were both not to shoot. The only difference is that if you don't shoot the victim and yet I do (or if I don't shoot the victim and yet you do), then we die along with the victim.

Accordingly, I would take a huge risk were I not to shoot the victim in Two Shooters+. I would risk the likely death of three people at the prospect of a tiny chance at saving everyone. Similarly, you would take a huge risk were you not to shoot the victim. In trying to secure the best that we could together bring about, you would likely bring about the worst instead. On the other hand, we together would take no risks were we both to holster; this group act is guaranteed to bring about the best possible outcome.

Thus, it is fairly straightforward to see that EUAC delivers mismatched verdicts in Two Shooters+. First, we have to calculate the expected utility of I shoot and compare it with the expected utility of I holster.[8] Second, we have to calculate the expected utility of [I shoot, you shoot] and compare it with the expected utilities of the alternative group acts.

First, the moral assessment of my act. There are two possible outcomes on I shoot. These are 1 dies and 3 die. Let's say that $V(3\ \text{DIE}) = -3$. There are two possible outcomes on I holster. These are 3 die and 0 die. Thus,

$$\begin{aligned} eu(\text{I SHOOT}) &= V(1\ \text{DIES}) * Pr(1\ \text{DIES} \mid \text{I SHOOT}) + V(3\ \text{DIE}) * Pr(3\ \text{DIE} \mid \text{I SHOOT}) \\ &= (-1)(.99) + (-3)(.01) \\ &= -1.02 \\ eu(\text{I HOLSTER}) &= V(3\ \text{DIE}) * Pr(3\ \text{DIE} \mid \text{I HOLSTER}) + V(0\ \text{DIE}) * Pr(0\ \text{DIE} \mid \text{I HOLSTER}) \\ &= (-3)(.99) + (0)(.01) \\ &= -2.97 \end{aligned}$$

This shows that $eu(\text{I SHOOT}) > eu(\text{I HOLSTER})$. So, according to EUAC, I act morally permissibily in Two Shooters+. Since the conditional probabilities are the same on your acts, we could run a similar set of calculations to show that you act morally permissibly in Two Shooters+ as well.

But *we* do not act permissibly according to EUAC. There is one possible outcome on [I shoot, you shoot]. This is 1 dies. Similarly, there is one possible outcome on each of our alternatives. On [I shoot, you holster], it's 3 die. On [I holster, you shoot], it's 3 die. And on [I holster, you holster], it's 0 die. So,

[8] Since the conditional probabilities are the same on you shoot and you holster respectively, the expected utilities will be the same for you shoot and you holster, respectively. So we have to run the calculation only once.

$$
\begin{aligned}
eu([\text{I SHOOT, YOU SHOOT}]) &= V(1\ \text{DIES}) * Pr(1\ \text{DIES} \mid [\text{I SHOOT, YOU SHOOT}]) \\
&= (-1)(1) \\
&= -1 \\
eu([\text{I SHOOT, YOU HOLSTER}]) &= V(3\ \text{DIE}) * Pr(3\ \text{DIE} \mid [\text{I SHOOT, YOU HOLSTER}]) \\
&= (-3)(1) \\
&= -3 \\
eu([\text{I HOLSTER, YOU SHOOT}]) &= V(3\ \text{DIE}) * Pr(3\ \text{DIE} \mid [\text{I HOLSTER, YOU SHOOT}]) \\
&= (-3)(1) \\
&= -3 \\
eu([\text{I HOLSTER, YOU HOLSTER}]) &= V(0\ \text{DIE}) * Pr(0\ \text{DIE} \mid [\text{I HOLSTER, YOU HOLSTER}]) \\
&= (0)(1) \\
&= 0
\end{aligned}
$$

This shows that $eu([\text{I SHOOT, YOU SHOOT}])$ is less than the expected utility of one of its alternatives, namely [I holster, you holster]. This shouldn't be surprising. According to the conditional probabilities stipulated in the case, the survival of everyone is guaranteed if we both don't shoot. And the death of at least one person is guaranteed given the way we act. So, according to EUAC, the group act is morally wrong in Two Shooters+.

Therefore, Two Shooters+ gives rise to the mismatch problem for EUAC. The theory says one thing about the group act (that it's morally impermissible) and a different thing about each individual act (that it's morally permissible). This shows that moving to expected utility does not dissolve the mismatch problem for consequentialism.[9]

3.2 Explaining the mismatch

It takes only a moment's reflection on a simple fact about expected utility to see why it's natural to expect mismatches for EUAC. Recall that in calculating the expected utility of an act, we calculate the likelihoods of various possible outcomes occuring if that act is performed. But one and the same outcome may have a different likelihood of occuring on different acts. Suppose I bend my left leg while standing. The likelihood that my hat gets closer to the ground is very low. Suppose I bend my right leg while standing. Again, the likelihood that my hat gets closer to the ground is very low. And yet suppose that I bend both my left leg and my right leg while standing. Now the likelihood that my hat gets closer to the ground is very high.

[9] There's another version of Two Shooters that gives rise to the mismatch problem under the credential interpretation of expected utility: imagine that each of us is *certain* that the other will shoot. See Nefsky (2012) and Pinkert (2015). In response to such a case, Kagan (2011) concedes that the move to expected utility is supposed to work only under the condition of individual uncertainty. Two Shooters+ meets the condition of individual uncertainty and yet still gives rise to the mismatch problem for EUAC.

We can see that the likelihood of one and the same outcome may be different under a set of acts than it is under any one of the individual acts. Since a group act is a set of acts, the likelihood of an outcome occuring if a group act is performed may be very different from the likelihood of that same outcome occuring if any one of the component individual acts is performed. Indeed, this is exactly what happens in Two Shooters+. In the case, 0 die is guaranteed on the assumption that [I holster, you holster] is performed and yet it's very unlikely on the assumption that either one of the component individual acts is performed. Instead, on the assumption that I holster is performed, 3 die is very likely. Given the difference in value between 0 die and 3 die, we see a divergence between the expected utility of the group act and the expected utilities of the individual acts.

Once we understand the basic mechanism for the divergence between the likelihood of an outcome on a group act and on its individual component acts, we should realize that mismatches for EUAC are quite common. Imagine that a good outcome is guaranteed only if we both cooperate. Imagine that it's very unlikely that you will cooperate and very unlikely that I will cooperate. And imagine that each of us would make things worse overall by being the sole cooperator. Then supposing that I cooperate, the likelihood of a good outcome is very low. But supposing that both of us cooperate, the likelihood of that same good outcome is guaranteed. In any case of this form, EUAC says that the group act is wrong when we both defect, but it says that each individual defection is morally permissible.

What is it, precisely, that explains why the mismatch problem arises for EUAC in connection with Two Shooters+ but not in connection with the original Two Shooters case? In Two Shooters, the same bad outcome arises whether one of us fails to holster or both of us do. In Two Shooters+, on the other hand, a worse possible outcome results if only one of us holsters. Since it's very likely that the other will not holster, this significantly lowers the expected utility of holstering in Two Shooters+. That's why shooting the victim has a greater expected utility than not shooting the victim in Two Shooters+, which results in the mismatch problem for EUAC.

4 The expected utility of group acts

I've put off until this section a discussion of the different interpretations of expected utility. A potential worry for the Two Shooters+ case is that the conditional probability assignments in the case cannot be sustained under some ways of thinking about how to extend the concept of expected utility to group acts. For example, suppose we use the credential interpretation of expected utility. Then, in Two Shooters+, we are supposed to imagine that the group has a degree of belief of 1 in the proposition *only the victim dies given that we perform* [I shoot, you shoot] . But, we may worry that groups do not have degrees of belief. If groups do not have degrees of belief, then the conditional probability attribution to the group act cannot be sustained.

It's important to recognize what lies at the heart of this worry. Suppose you and I have different credences in a conditional on b. Then we need to adopt some

aggregation procedure to determine *our* credence in *a* conditional on *b*. It can be difficult, maybe even impossible to settle on an aggregation procedure. This, I believe, represents the resistance to attributing credences to groups of people.

But there are some cases in which the difficulty associated with non-uniform credences need not arise. These are cases in which you and I have the same credences in all the relevant propositions. In such cases, *our* credence in some proposition is simply either of our individual credences in that proposition.[10]

There's a version of Two Shooters+ in which you and I have the same credences in all the relevant propositions. Let's imagine that each of us has a credence of 1 in *author's shot will kill victim*, *reader's shot will kill victim*, *three will die if author holsters and reader shoots*, *three will die if reader holsters and author shoots*, and *no one dies if both holster*. Then it's straightforward to attribute credences to the group that sustain the assignment of conditional probabilities in Two Shooters+.

On the other hand, consider a version of Two Shooters+ in which you and I do not have uniform credences. If there's no aggregation procedure to settle our group credences, then there is no way to determine what EUAU implies about the moral obligations of the group. Thus, EUAC fails to deliver a verdict on [I shoot, you shoot], producing a mismatch problem of a different but related sort. The theory says one thing about the group (morally undefined behavior) while saying a different thing about each individual (morally wrong action).

Mismatches of this sort may be even more plausible under the evidential interpretation of expected utility. In order to assign a conditional probability of 1 to [I shoot, you shoot], we are to imagine that the group's evidence justifies a degree of belief of 1 in the proposition *only the victim dies given that we perform* [I shoot, you shoot] . But we may worry that groups do not have evidence. If you and I do not have uniform bodies of evidence, it can be difficult, maybe even impossible to settle on an aggregation procedure. EUAC will fail to deliver a verdict on [I shoot, you shoot].

Of course, there are some situations in which a group is made up of people with uniform evidence. Imagine a group of people in a jury who all form exactly the same beliefs on the basis of the evidence presented during the trial. Imagine that the individual jury members start with the same background beliefs. Then the jury is made up of individuals all of whom have the same credences, and all of whom have the same evidence. In such a situation, it's reasonable to assume that the group's evidence is the same as any individual's evidence.

We can see that there's a version of Two Shooters+ that sustains the attributions of conditional probabilities under the evidential interpretation. Imagine that, before either of us shoots, each is presented with the same conclusive evidence about both the author's and the reader's sharpshooting ability and the workings and effects of the explosive device. In this case, *our* evidence is the same as my and your evidence. We can then safely assume that our evidence justifies a credence of 1 in the proposition *only the victim dies given that we perform* [I shoot, you shoot] and a credence of 1 in the proposition *no one dies given that we perform* [I holster, you

[10] I take it that this is a natural assumption. See, for example, Hylland and Zeckhauser (1979, 1323).

holster] . In this version of Two Shooters+, the mismatch problem arises for EUAC under the evidential interpretation of expected utility.[11]

5 Conclusion

To sum it up, I have argued that EUAC does not solve the mismatch problem for consequentialism. While EUAC solves the mismatch problem in Two Shooters, it fails to solve the mismatch problem in the slightly modified Two Shooters+. Thus, when it comes to resolving the mismatch problem for consequentialism in a general way, an appeal to expected utility does not hold the answer.

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[11] I must note here that I cannot see how any special difficulties will arise in connection with the assignment of objective probabilities to group acts. You and I might have different credences in *a* conditional on *b*, and you and I might have different bodies of evidence justifying *a* conditional on *b*, but the objective probability of *a* conditional on *b* cannot differ between us. Thus, I see no reason to worry about the attributions of conditional probabilities in Two Shooters under the objective intepretation of expected utility.