ORIGINAL ARTICLE

How to use imaginary cases in normative theory

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This paper defends the use of imaginary cases in normative theorizing. Imaginary cases are used as a part of an argument and should be assessed in terms of the role they play within arguments. The paper identifies five ways in which they are used and then uses some of the best examples to bring out how they contribute to debates. While not directly akin to empirical experiments, criticisms of imaginary cases can be represented in terms of the well-known distinction between internal and external validity in social science experiments. While imaginary cases can suffer from internal and external validity problems, these do not constitute a decisive critique of their use as a method of analysis. Criticisms of imaginary cases should detail the precise form in which they are used, and why any particular use is invalid, internally or externally, in the context of the argument for which the case is presented.

KEYWORDS
external validity, internal validity, intuition pumps, intuitions, methods, thought experiments

1 | INTRODUCTION

The use of imaginary cases is a standard technique of normative philosophical argument. Both interest in and criticism of their use in moral and political philosophy has been increasing. They are defended here in the face of some of the standard criticisms. The method of cases can be considered as a thought experiment generating a conclusion. A scenario is narrated, and from that a conclusion or intuition is drawn. We then reflect on the views stimulated by imaginary cases that might cause us to change our beliefs. That reflection also brings forth reasons to defend the beliefs we come to. The method allows us to interrogate distinctions we

think important in moral deliberation. The initial belief or intuition that strikes us from any given case is, however, likely to be one that we need to think through before we give it up, and our reasons are often reflective on that initial intuition.

I give five non-exclusive ways in which cases are used in normative theory. In section 3, I raise some concerns regarding the use of imaginary cases. Some of the problems I identify are well known in the literature, other less so. I explicate these concerns in two general forms, mirroring soundness recognized in experimental social science concerning "internal" and "external" validity.[1] Internal validity concerns how far we can trust the result of an experiment itself. An experiment is internally valid where significant differences between the treatment and the control situations allow for causal inference. Causal inference is impugned when the experiment is not set up correctly. The main problems of internal validity are confounding factors *within* the experimental set-up, leading us to question the causal inference. Internal validity specifies how confident we are that the findings result from the experimental manipulation, even if we are uncertain of the causal mechanisms involved.

External validity concerns the generalizability of findings. It concerns how far the experimental results, given their internal validity, apply more broadly outside the experimental setting. Consider, for example, an experiment where subjects are given an election address of candidates for a fictional election, along with a photograph of the candidate. By digitally altering hair colour in the photograph, keeping everything else the same, the experiment examines the effect of a candidate's hair colour on the likelihood subjects say they would vote for the candidate. Say in the laboratory we find hair colour has a statistically significant but small effect on the appeal of a candidate. Assuming the internal validity of the experimental set-up is high, what does this mean for a candidate's hair colour in actual elections? Possibly nothing. For all sorts of reasons. Many other factors not controlled in the experiment might affect the result—there are external confounding factors. Furthermore, these confounding factors might interact with some of the factors in the experimental set-up, wiping out any potential hair-colour effects. Real-world voters might not be so aware of candidates' hair colour, since they see the candidates through different media where hair colour is not portrayed in the same way. Hair colour might matter only when the subject has only one other piece of information—the election address—and not when confronted with multiple sources of information, and so on. In other words, something true inside the laboratory might not be true outside it. Imaginary cases can likewise be critiqued in terms of their internal and external validity.

2 | FIVE TYPES OF IMAGINARY CASES

2.1 | Five types

This paper identifies five non-exclusive ways in which imaginary cases are used in developing arguments, illustrating them with the best examples from the literature. They are chosen not because they establish their conclusions but rather because a case has been used well. Imaginary cases, like models generally in social explanation, are designed for a specific purpose. Poor usage often occurs when a standard example is used out of context. Sometimes this happens when a case is originally used in one form and then later used in different forms.

The simplest use of an imaginary case is to *illustrate* an aspect of an argument: that is, the case is used, first, to give an example of the sort of claim that is being made. Second, the case is used as an *analogy* to some target. Here the case is a simpler, less fussy version of the issue at hand and is designed to bring out the important normative features. Third, a case can be used *comparatively*. Two different but similar imaginary cases are compared. Each suggests a

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[1]Adrian Blau (2016) also considers imaginary cases in these terms, though in a fashion different from that of this paper.

similar type of moral dilemma, but pertinent features of each lead us to different moral judgements. The cases are then interrogated to see what is relevantly different across them. The fourth use is to *test a general moral theory*. The test can be thought of as a critical case study. Various imaginary cases have been used to critique utilitarianism, for example. Finally, cases are used as a representative function in a *structural* form. Here the story itself is less important than its structural features. These are five non-exclusive ways of viewing imaginary cases, and the same case might be used in several of these different forms within the construction of different arguments.

2.2 | Illustrative

Often a case is there to illustrate a point and is not spelled out in any detail. Such cases might be seen simply as heuristic or rhetorical devices to help explain the point being made. But they can also be quite complex illustrations. Cohen (2011, 14–16) uses the doubly unfortunate person whose legs are paralyzed and who feels great pain when moving their arms to illustrate his claim that egalitarians are likely to want to compensate people for lack of welfare and lack of resources. Egalitarians will provide a wheelchair even when the man's overall welfare is equal to that of the fully abled bodied (he needs the resource) and provide pain-relieving medicine despite his having full use of his arms (but he lacks welfare).

2.3 | Analogy

Imaginary cases are often used as an analogy to the specific situation being addressed, for example Judith Jarvis Thomson's *Violinist*. *Violinist* is directed at a simple claim: every person has a right to life, the foetus is a person (an assumption Thomson allows for in her argument), and while a woman has a right to decide what to do with her body, the right to life outweighs that right.

> It sounds plausible. But now let me ask you to imagine this. You wake up in the morning and find yourself back to back in bed with an unconscious violinist. A famous unconscious violinist. He has been found to have a fatal kidney ailment, and the Society of Music Lovers has canvassed all the available medical records and found that you alone have the right blood type to help. They have therefore kidnapped you, and last night the violinist's circulatory system was plugged into yours, so that your kidneys can be used to extract poisons from his blood as well as your own. The director of the hospital now tells you, "Look, we're sorry the Society of Music Lovers did this to you—we would never have permitted it if we had known. But still, they did it, and the violinist now is plugged into you. To unplug you would be to kill him. But never mind, it's only for nine months. By then he will have recovered from his ailment, and can safely be unplugged from you." Is it morally incumbent on you to accede to this situation? (Thomson 1971, 49)

Thomson suggests that although it might be good of you to accede, you do not have to, and then asks, "What if it were not nine months but nine years? Or longer still?"

Violinist is designed to be analogous to pregnancy. Thomson discusses throughout her article dis-analogies between *Violinist* and different types of abortion cases. For example, in its first incarnation above, the violinist's circulatory system being plugged into yours without your consent might be analogous to rape but not to consensual sex. Later in the article

Thomson changes the original story and offers new imaginary cases in order to create more narratives analogous to situations of pregnancy following consensual sex.

Violinist is one of the cleanest uses of imaginary cases as analogies because Thomson has a very clear target. Her aim is not to provide a full justification for abortion; rather she challenges the inference that from a foetus being a person and having the right to life it immediately follows that abortion is wrong.

2.4 | Comparatively

Imaginary cases are often used in tandem, drawing out distinctions through comparison. To illustrate, consider *Trolley*. This case was first introduced by Philippa Foot (1967). Her essay—also stimulated by the abortion issue but more broadly about the doctrine of double effect—is essentially a set of imaginary cases (twenty-five in a 6,500-word article). Some of these are illustrations comparatively demonstrating different usages of a term:

> So, for instance, he could warn someone, but *allows* him to walk into a trap. He could feed an animal but *allows* it to die for lack of food. He could stop a leaking tap but *allows* the water to go on flowing. This is the case of allowing with which we shall be concerned, but the other should be mentioned. It is the kind of allowing which is roughly equivalent to *enabling*; the root idea being the removal of some obstacle which is, as it were, holding back a train of events. So someone may remove a plug and *allow* water to flow; open a door and *allow* an animal to get out; or give someone money and *allow* him to get back on his feet. (Foot 1967, 9)

Foot's argument uses a version of the doctrine of double effect to argue that, while the consequences of actions are an important aspect of rightful action, other considerations also play a key role. The doctrine of double effect is credited to Thomas Aquinas, who used it when considering whether it was ever justified to kill another person. Aquinas, at least in part, wanted to explain how several apparently contradictory but canonical Christian statements can be made consistent. Specifically, he is arguing against Augustine's statement that it is not justified to kill another person in self-defence. Aquinas argues that one might kill another in self-defence as long as the killing is not intentional. He asserts, "Nothing hinders one act from having two effects, only one of which is intended, while the other is beside the intention" (Aquinas 2000, Part II of Part II [L. 63, C. 8], Qu 64, Art 7, Obj 5). For Aquinas, defending oneself when attacked, as long as one does not do so in an unreasonably robust manner, is acceptable. Note here that the example "killing in self-defence" is not used by Aquinas as an illustration of the doctrine of double effect but rather is the conclusion that the doctrine is designed to reach. Later literature often uses the example to illustrate the doctrine—the conclusion has become (part of) the argument.

Foot is one of the founders of modern virtue ethics, and her complex and subtle essay is part of that foundation. She does not doubt that the consequences of actions are relevant to rightful action but argues that consequences are not the only relevant moral aspect of any decision. *Trolley* is introduced to contrast with a case with a similar form. Foot begins with an example where a judge

> is faced with rioters demanding that a culprit be found for a certain crime and threatening otherwise to take their own bloody revenge on a particular section of the community. The real culprit being unknown, the judge sees himself as able to prevent the bloodshed only by framing some innocent person and having him executed.

She then says,

> Beside this example is placed another in which a pilot whose airplane is about to crash is deciding whether to steer from a more to a less inhabited area. To make the parallel as close as possible it may rather be supposed that he is the driver of a runaway tram which he can only steer from one narrow track on to another; five men are working on one track and one man on the other; anyone on the track he enters is bound to be killed. (1967, 7)

Foot's point is that in both cases a person is killed in order to save other lives, but in the first case, call it *Judge*, the killing would not be justified; in the second, it is. We note that Foot does not for a moment entertain the option that the tram driver should not steer to the track with only one person on it. Her reason for contrasting the two cases is to suggest that the doctrine of double effect can explain why we view the cases differently, which she understands as implying that "it is sometimes permissible to bring about by oblique intention what one may not directly intend' (1967, 10), although she further argues that "the distinction between direct and oblique intention plays only a quite subsidiary role in determining what we say in these cases, while the distinction between avoiding injury and bringing aid is very important indeed" (10). The distinction is that, while it is permissible to kill one rather than kill five, it is not permissible to kill one in order to save five. This argument is not further considered, for that is not the issue. What matters here is that Foot uses a set of narratives to tease out important distinctions.

Thomson (1976, 1985) develops *Trolley* as it is now widely used, also using it comparatively. Indeed, what Thomson introduces as *Th*e *Trolley Problem* is not, as is now sometimes thought, the problem of whether it is permissible to change the direction of the trolley but why it is permissible to do so in her version (which she calls *Bystander at the Switch* or *Bystander*), yet not in her contrasting case. She contrasts *Bystander* with a situation similar to Foot's *Judge*, an imaginary case she calls *Transplant*. Both are discussed here as they appear in Thomson 1985.

Thomson's argument challenges Foot's solution to the contrast that Foot drew between her version of *Trolley* and *Judge*. Thomson does this by changing the story and introducing the new case. Her point is to suggest that Foot's distinction does not hold in these new cases, though our intuitions remain the same. *Bystander* is the standard version of *Trolley* discussed widely in the literature.[2] By making the person who changes the trolley's direction a mere bystander, Foot's distinction between avoiding injury and bringing aid is elided, since the bystander at the switch determines whether one person or five people die. Thomson suggests, "[M]y own feeling is that an ordinary person, a mere bystander, may intervene in such a case" (1985, 1397).[3] She also changes the contrasting case to *Transplant* (which appears in proto-form in Foot 1967): Is it permissible for a surgeon to remove the lungs, kidneys, and heart from a healthy patient just there for a check-up, who is a perfect genetic match to save five people who will die if they do not each receive one of the organs? The question for Thomson is why it is justifiable for the trolley bystander to throw the switch but not for the surgeon to remove the organs, since in both cases they intervene to kill one person and save five.

Thomson goes further, changing *Transplant* such that the five patients have failing organs because of something the surgeon had done (in one scenario accidently, in another to murder

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[2]*Trolley* is central to at least thirty articles and five books, as well as being mentioned or discussed in myriad other academic pieces and in the public media more generally.

[3]Though she later changes her mind (Thomson 2008).

them but then repenting). So now the surgeon would not be killing one to save five but rather killing one in order to stop himself from killing five. Thomson invites us to ask whether this makes it permissible for him to take the organs from the healthy patient and again invites the answer no. So, the distinction upon which Foot rests her argument is assailed from both sides. Again, Thomson's argument is not discussed further. What matters here is the manner in which the imaginary cases are utilized. Thomson's purpose is to take Foot's distinction, which seems to work in a specific set of comparisons, and to show that when this distinction is missing from a similar set of contrasting cases, our intuitions about them do not change. Thomson concludes that, therefore, Foot's distinction cannot be the operative normative distinction, and so we must look elsewhere. Again, this is an impeccable example of the comparative use of imaginary cases.

2.5 | Testing a general theory

Critical case studies are part of the process of reflective equilibrium. *Transplant* is sometimes used in that manner simply to suggest that maximizing utility is not always justified. In that sense, it is used like a specific test of a theory—utilitarianism. Bernard Williams's *Jim* is a stronger example (1973, 98). Jim is asked to kill one innocent person, or else the Captain will kill twenty local inhabitants. Williams argues that a utilitarian will not only advise Jim to kill the one but will consider the answer to be obvious (it is not a dilemma); accordingly, Jim should not feel any moral regret—or, as Williams puts it, utilitarianism ignores Jim's moral integrity. These facts about moral regret and integrity demonstrate that the consequences of actions cannot be all there is to our fundamental moral beliefs, and hence utilitarianism cannot be fundamental in ethics. While critical case studies share the same logical form as cases used analogously, the difference is that the critical case study is designed to demolish a general theory, as experiments are sometimes supposed to do in science.

Sometimes cases are used conversely—that is, to challenge our intuitions about the case. Say, for example, there is a storm, and one can save either the person on a rock or five people in a boat. One immediate response is to save the five. Rolling a fair six-sided die, however, where 1 means save the person on the rock and 2 to 6 mean save those in the boat will equalize everyone's chances of living. Here the case is used to argue that, if we are committed egalitarians, our initial intuition is wrong.

Either way round, critical case studies can be used atomistically—to show that a theory has an important implication or that the example demonstrates that the theory must be wrong—or be used as part of a coherence test of reflection. We put our intuitions and our theories into play to reach the considered judgements of which Rawls writes.

2.6 | Structural representations

Imaginary cases often work through analogy: the case pumps an intuition that is then applied to another more complex case or a set of more general cases in society. The representation function is best used when the case has the same *structural* form as the target. David Estlund's *Slice and Patch Go Golfing* case (hereafter *Slice and Patch*) is of this form. I will not discuss Estlund's argument in detail. It is long and subtle and is concerned with moral failure where there is no obvious agent who has failed to fulfil their obligations to argue for a form of non-agential form of moral requirement Estlund calls "plural requirement." *Slice and Patch* concerns two doctors who working together could save a patient's life, one by slicing the patient up to perform an operation, the other by patching her up afterwards (Estlund 2020, 33, 211). If Slice operates without Patch sewing up afterwards, the patient

will die. For Patch just to sew without an operation being performed will simply cause the patient pain before death.

Estlund argues that Slice is not obliged to operate if Patch is not there to sew, and Patch is not obliged to sew if Slice is not there to operate. The example is designed to cover myriad cases where each person has not failed in their moral obligation. We can see that *Slice and Patch* is a coordination problem that can be simply represented in a toy normal-form game:

S + P Coordination Game

		Agent B	
		y	~y
Agent A	x	α	β
	~x	β	0

where α > > 0 > β

Here α is much preferred to 0, which is preferred to β, but there is no dominant strategy. The plausibility of the generalization to the class of cases in general relies upon the structure of the toy game. While a rather crude re-interpretation of Estlund, the plural requirement is one of coordination. It is the structure of the game in *Slice and Patch* that provides Estlund with his argument. This is also the case in his other, structurally different, coordination games.

How valid are such imaginary cases in arguments? Comparison can be made with validity in actual social science experiments.

3 | INTERNAL VALIDITY

3.1 | Status of the intuition

The most obvious problem of internal validity is the derivation of the intuition. Thomson (1985) assumes the bystander is permitted to switch the trolley. Most but not everyone agrees with this assessment. In Joshua Greene's (2013) actual experiments, one in five people did not approve of the bystander switching the trolley. How great a problem this is for the use of imaginary cases in moral philosophy in part depends on the project in which one is engaged. If the project is an attempt at a universalist objective account of morality, then the lack of intuitive agreement is a problem. Moreover, it is then a problem for external validity. Is it, however, also one of internal validity? Are we right to use our own intuition if it is not universally held? If the intuition is the key element of the argument, then yes. There are problems of internal validity. If, however, the case study is only illustrative or used comparatively, internal validity is less of a problem. Greene also reports that in the comparator cases of *Trolley* far fewer people agree that saving the five is justified (down from four-fifths to less than one-third). Given the comparative difference, there is room for philosophical discussion on the rationality of holding different positions on the varying cases, even though the intuitions are not universally held.[4]

Clearly, if the imaginary case is to work, then the intuition the author wants to bring forth must resonate with some readers, but where it does not resonate, dialogue begins. The method of cases is normally part of an argument and not the decisive test fondly imagined of real experiments. When used as part of an argument, the fact that intuitions are not universally shared is problematic but not decisive. Indeed, this is precisely the process we see in the history

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[4]For psychologists, that explanation lies in human psychology. I make no comment in this paper on psychological criticisms of the philosophical project here. I am assuming, in general, that the philosophical project makes sense and is justifiable.

of *Trolley* used in comparison with other cases. The variant cases are part of an extended debate.

3.2 | Clarity of the narrative

An important aspect of internal validity is that the narrative in the case is presented simply and cleanly, bearing in mind that if the analogy is too close to the target, then it cannot serve much of a purpose. The less extraneous material, the less room for confounding factors. Indeed, that is why formalizing the structure enabling deduction does not suffer internal validity problems.

There is a fashion for telling amusing and fantastic stories in order to generate interest in the case. Sometimes a fantastic example is necessary for the explicit analogy being drawn. Thomson (1971) describes people-seeds drifting in the air; you can try to stop them from taking root in your carpet by blocking your windows with mesh. Sometimes the screen is defective, and she asks whether a person-plant that then forms has a right to develop on your carpet. The analogy to pregnancy is clear. Differing intuitions about the imaginary case and the target case will be due to the dis-analogies. Do we consider people-plants to be people? Here the counterfactual elements become important. Are actual people formed in this manner in this fantastic universe or are they just people-like? Do they interact with regular people? Are the people-plants more like people or more like plants? And so on.

The problem with fantastic examples is that too much is underspecified, and thus many questions can be raised about them (Parfit 1984, 388–89; Dancy 1985; Cooper 2005). Answers to these questions allow many different rationalizations for different reactions. This raises serious problems of internal validity, since we cannot be sure what factors might be confounding our (possibly divergent) intuitions. When the stories are too fantastic, we simply cannot trust our intuitions (Elster 2011).

Fantasies might contradict our other beliefs. Robert Nozick's *Utility Monster* case (1974) requires the ability to make transparent and precise interpersonal comparisons of utility. If we believe interpersonal comparisons are problematic, we can deny the plausibility of such a monster. Or a utilitarian might argue that part of our decision on how to assign goods is based on the kinds of interpersonal comparison we are able to make. Only where we believed everything ought to be given to the monster would we consider him possible.

The lesson here is that if a fantastic case is made, one has every right to interrogate it to see what has to change in the actual world for us to be sure we correctly interpret the case. Fantastic cases have massive internal validity problems, for we have to know precisely what the confounding factors are, and these factors might well be other fantastic assumptions that are unspecified in the story. The lesson is that the more fantastic the story, the greater the problem of internal validity.

3.3 | Framing effects

It is well known that how one describes a situation can affect attitudes to it. Experiments on subjects using standard imaginary cases from moral philosophy show that morally irrelevant details can be important to subjects' conclusions. While this finding is important and should be borne in mind when constructing cases, it not very pertinent to method in philosophy where the cases are reflected upon to rationalise the important moral distinctions. Frances Kamm (2016) recommends careful controlled changes as an analogy to laboratory experiments. But we should also be aware that the order in which changes are made can affect our attitude, and there is no reason to think that this problem is not present when the variations have been developed over many years by different authors. The order in which examples and

counterexamples have been constructed or published in any dialectic might affect our judgement as to the correct conclusion.

These framing problems are not decisive criticisms of the method of cases any more than we can often query the internal validity of aspects of many important physical experiments. But they should give pause to the conclusions drawn when they are used in arguments.

3.4 | Interpretation

Another aspect of internal validity concerns the interpretation of the example. If a case, such as *Slice and Patch*, can be formalized to reveal the structure, then any interpretation whose conclusion does not fit with the correct deductive inference is problematic. We can note that sometimes people challenge the conclusion of the deductive inference—the many who challenged the deductive inference from the one-shot normal-form Prisoner's Dilemma, for example. They were simply mistaken, however, or were making a different claim, one of external validity. They were claiming that the maths did not actually project on to the story of the prisoners that was used to illustrate what the maths is supposed to show. Sometimes the story is the point of the case—its precise details are what matter. Sometimes the story ought to be irrelevant; it is the underlying structure that matters. When the story is the point, we need to home in on our interpretation of the important part of the story. When it is the structure that matters, we need to concentrate on the structure and not on the story.

4 | EXTERNAL VALIDITY

4.1 | Generalization

Thomson uses *Trolley* to query the external validity of Foot's original use. What Foot claims is decisive in her comparisons cannot be what is decisive in Thomson's new examples. Thomson claims that there is another factor that generalizes across the cases.

The thrust of social-psychological critiques of the method of cases is about generalization. How far do claims drawn from imaginary cases generalize to the public at large? This is not the same point as the *status of the intuition*, which concerns how the intuition was drawn, but applies to what our conclusion means for others and other situations.

Jonathan Haidt (2012), Joshua Greene (2013), and others have demonstrated that different cultures and language communities tend to draw different conclusions from identical cases. In other words, the views of Western analytic philosophers about their cases are not projectible worldwide. This problem of external validity matters only if universal moral claims are being drawn from these cases. Where the claim is that the example shows that a given moral theory is wrong in order to defend another generalizable theory, the lack of generalization is important.

To be clear, the claim is not simply that these experiments demonstrate that there is cultural variation across moral beliefs. That might be true and might be used to develop an argument against any normative generalizations across humanity as a whole. The fact of variation, however, does not itself demonstrate that universal truths about morality are mistaken. It might simply show that many people, and some cultures, are *wrong* in their moral beliefs. It is open for philosophers to produce moral arguments to show that some cultural beliefs are simply mistaken. The problem for the use of an imaginary case in this regard is when the case is used as a vital element in the argument for the universal claim. If the case is used merely to *illustrate* an argument that can stand on its own grounds, then the external validity is less important.

Indeed, if the intuition is not being used for claims about universal validity but rather as an element in an argument within the language community—that is, the community of analytic philosophers—then the fact of cultural relativity is interesting but not decisive. The Gettier (1963) counterexamples led to almost universal acceptance amongst epistemologists that the claim that knowledge is justified true belief needs modification. The fact that experiments show that "knowledge" is thought to be a very different sort of thing in some cultures is largely irrelevant to Western epistemology (Weinberg, Nichols, and Stich 2001). The fact that some cultures do not distinguish between "belief" and "knowledge" does not mean analytic philosophers should give up a claim that they are distinct.

Imaginary cases in normative theorizing might be educing moral rather than semantic intuitions, though the line between the two is a fine one. Indeed, cases addressing conceptual questions such as "What is liberty? centre on semantic as much as moral intuitions. Moral intuitions are semantically implicated in the sense that our moral concepts partition the moral and social universe in certain ways. It is perfectly feasible that those partitions affect our moral views in borderline cases, even if they do not much affect our attitudes across the bulk of the cases that we consider. One problem for the external validity of a case is that precisely because they examine borderline issues we cannot generalize when people make different fine distinctions.

One aspect concerns what is being generalized—our conclusions or our justifications? Philosophers use imaginary cases to find reasons or justifications for the moral conclusions we reach, not, as social psychologists do, to uncover the actual motivations behind people's reactions to their cases. Consider the case of *Sibling Sex*:

> Julie and Mark are brother and sister. They are travelling together in France on summer vacation from college. One night they stay alone in a cabin near the beach. They decide it would be interesting and fun if they tried making love. At the very least it would be a new experience for each of them. Julie was already taking birth control pills, but Mark uses a condom too, just to be safe. They both enjoy making love but decide not to do it again. They keep that night as a special secret between them, which makes them feel even closer to each other. What do you think about that, was it OK for them to make love? (Haidt 2012, 53)

Virtually all Haidt's subjects think the siblings are wrong to have sex, but when challenged to say why, they give reasons that are discountenanced by the narrative. So, they look to the heritage dangers of any child born of the incident or the psychological dangers to the brother and sister. A philosophical response might be that if we are to take the story at face value, then, sure, there is nothing morally problematic about the siblings having sex. That does not, however, make the case projectable on to any case of sibling sex in the real world, since contraception is never 100 percent secure, we cannot really know the psychological effects of sibling sex despite what people might honestly believe, and we know that, despite promises sincerely given at the time, people do reveal secrets. In that sense, *Sibling Sex* says nothing at all about any actual-world moral dilemmas, for it does not even project on to the closest real-world situation that it describes. Its external validity is zero.

The same claim might be made about every imaginary case that is set up with conditions of certainty or infinite value. Such cases do not project on to the actual world, since nothing is certain, and people cannot grasp infinite value. The external validity of fantastic cases is also problematic. Fantastic cases suffer massive problems of internal validity, but even if we think we have a good grasp of the example itself, why should our views about something that cannot happen in the actual world project on to events that *can* happen? For one thing, elements in the fantastic case might combine differently in the actual world. In other words, there are

external confounding factors. For example, modifying a factor might have not only a direct effect on our conclusions but also indirect effects, as the modification interacts with other factors (Dancy 2009; Elster 2011, 252). Even if we trust our judgement in the fantastic case (we are confident about its internal validity), we cannot project it on to the actual world.

One response to projectability problems of unrealistic narratives is to point out that thought experiments and models in the natural and social sciences often use unrealistic assumptions. Yet we successfully project those on to the actual world. The unreality of assumptions in thought experiments, however, is of a different order to the unreality of imaginary case stories. To show that to be so requires considering projection in a little more detail.

4.2 | Projection on to other cases

Slavny et al. (2021) suggest that imaginary cases can be utilized in a manner similar to hub-and-spoke accounts of models in science. The imaginary case is the hub, and the spokes are the cases to which it is applied. Godfrey-Smith (2009) suggests that a model description specifies a model system, which resembles the target system, and what we think true of the model system will be true of the target system. The idea is that we can learn from fictional cases much as we can from physical analogies. A physical analogy might compare the rate of poverty in two similar social systems or bacterial genetics with human genetics with respect to certain features and not others. Godfrey-Smith suggests comparing evolution in a simple fictional system with evolution in a more complex system where some of the assumptions of the simple system apply. He argues that the mappings are guided by properties of the model system and the target system: "Approximate knowledge of the actual cases is achieved via exact knowledge of a hub case plus a shifting array of more empirical concepts and methods" (2009, 107).

This process is helped if the fictional case is simple and clean, so the issues are obvious and inferences easy to make. Those inferences are then applied to an array of other cases sharing similar features. Similarity relations are difficult to specify, but the most common proposal is that the fictional and target cases share structural similarities. Thus, deductive thought experiments provide the best examples for such hub-and-spoke uses. We can be sure of the exact knowledge of the hub case because it is deductive, and the lessons learned are applicable when the structural relationship between the variables in the hub case is also in the target case(s). As Godfrey-Smith acknowledges, the fact that the best hub-and-spoke models are deductive suggests that most imaginary cases cannot be put into the same class, though he claims that "[s]pare and schematic fictions are akin to abstract analytic models" and "[p]arables are like narrative algebra" (2009, 107).

There is an important difference, however. In scientific accounts the maths gives fictional predictions in the sense that the predictions abstract so much there are no actual token examples quite like them. The principle of the lever, for example, assumes a rigid balanced beam with no friction. This is not so for real levers. In principle, however, one can take these ignored factors into account and calculate the error from the abstract model prediction. Often we do not bother, since the general model gives us an estimation that is "good enough," leaving margin for such errors in practical applications. While not all deductive models allow for such precise estimations, what is important is the structural similarity. It is not always clear with fictional stories what the structural similarities are.

Slavny et al. (2021) view Peter Singer's *Drowning Child* case as an example of a hub of the moral principle that "if it is in our power to prevent something very bad from happening, without thereby sacrificing anything morally significant, we ought, morally, to do it": "[I]f I am walking past a shallow pond and see a child drowning in it, I ought to wade in and pull the child out. This will mean getting my clothes muddy, but this is insignificant, while the death of the child would presumably be a very bad thing" (Singer 1972, 230). Singer suggests that the

uncontroversial nature of the principle as illustrated is deceptive. When applied to children in need globally, for example, the case takes no account of proximity or of cases where there are many others who could also help. Singer goes on to explore why such objections to the principle are unfounded. While he is not explicitly arguing the case, the rest of his argument is about why *Drowning Child* can be projected on to helping the world's poor, arguing that helping the world's poor is a duty, not an act of charity.

There are all sorts of dis-analogies between *Drowning Child* and giving aid to the world's poor. *Drowning Child* has one child, whom we can immediately help. The poor are multifarious and do not involve a specific incident in front of us. One might object that if one walked by the shallow pond every day and every day a child was drowning, one might feel that it would be better, rather than saving a child each day, to convince others to help build a fence around the pond to stop children from falling into it. The analogy then would be not to giving aid directly but to working for global structural change.

These dis-analogies suggest that *Drowning Child* is not a good example of Godfrey-Smith's hub-and-spoke model. To the extent that the structural dis-analogies hold, the similarity relationship that Godfrey-Smith's argument relies upon cannot be maintained. To be clear, Singer himself does not misuse the *Drowning Child* case. He uses it to motivate an argument, and a large part of his argument is to probe the dis-analogies. Furthermore, even though we might be able to critique *Drowning Child* and to find arguments to dispute the strong claims by Singer here, the narrative nicely inspires debate. At the very least, it provokes us. These dis-analogies mean, however, that it does not provide a good example of Godfrey-Smith's hub-and-spoke model.

The hub-and-spoke model requires the narrative to project on to cases where the normative implications drawn from the narrative can equally be projected on to more complex cases. That means we require a strong similarity structural relationship missing in *Drowning Child*. Only when we have an imaginary case whose structure can be formalized, as we saw with Estlund's *Slice and Patch*, can imaginary cases be used in the hub-and-spoke manner. But note that it is the structure, not the specific story, that provides the hub. One might argue that there is agential failure in *Slice and Patch*—the failure of the hospital administrators to ensure that doctors work together when they have needy patients. One might come up with other coordination games where it is less obvious. For that purpose Estlund himself uses *Stranded Ambulance*, about a group of drinkers who do not coordinate to help move an ambulance that is stuck in the mud (2020, 217). Here the moral requirements are given by the specific story and the expectations engendered by that story. In fact, this suggests that the structure provides us with the question about coordination. Where we lay blame (if at all) lies in the precise nature of the coordination problem within the context of the application of the game. Coordination problems come in multifarious forms.

5 | CONCLUSIONS

When assessing the method of cases, the role an imaginary story plays in the context of an argument requires careful assessment. Five non-exclusive ways have been identified in normative theorizing, and across these five the nature and importance of internal and external validity vary. Without disparaging the rhetorical effects of a case, when used illustratively a case forms a minor part of an argument. When used comparatively, what matters is the interrogation of the normatively significant differences between cases. Fine distinctions, however, might not have much external validity, because they might be swamped by other features or interact with other features in more complex cases.

Sometimes imaginary cases are used with the broader aim of undermining a grand moral theory. If morality is analytic, then, like a mathematical theorem, a decisive case study such as *Transplant* or *Jim* could refute it. If, however, moral theories are synthetic, then case studies

should be treated as they are in science. None is decisive—if only because there are always issues of internal and external validity. Furthermore, in the social sciences, case studies tend to show that a theory or mechanism does not apply to this case; they rarely if ever actually refute a theory (Dowding 2020). That does not mean that intuition pumps such as *Transplant* and *Jim* do not provide strong reasons for being sceptical about general theories, but on their own they are not decisive.

One claim is that simple cases can operate as a general model or paradigm for a class of moral problems. Godfrey-Smith's hub-and-spoke analogy is one way of thinking about such cases. Projection on to other cases requires relevant similarity, but often it is small details that give us different intuitions and judgements about cases. In order to fulfil the hub-and-spoke model, Godfrey-Smith's analogy between algebra and verbal fiction needs to be made tighter. That can be done when it is the structure of the story that provides the analogy, not details of the story itself, such as when we formalize the story into a deductive thought experiment applying the results of the case to the structure of relevantly similar cases. *Slice and Patch* is an example because it can be formalized as a coordination problem at the heart of the problem Estlund identifies.

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