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# Empirically Investigating Imaginative Resistance<sup>\*</sup>

Shen-yi Liao, Nina Strohminger, and Chandra Sekhar Sripada<sup>†</sup>

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## Abstract

Imaginative resistance refers to a phenomenon in which people resist engaging in particular prompted imaginative activities. Philosophers have primarily theorized about this phenomenon from the armchair. In this paper, we demonstrate the utility of empirical methods for investigating imaginative resistance. We present two studies that help to establish the psychological reality of imaginative resistance, and to uncover one factor that is significant for explaining this phenomenon but low in psychological salience: genre. Furthermore, our studies have the methodological upshot of showing how empirical tools can complement the predominant armchair approach to philosophical aesthetics.

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Human beings are imaginers. We reason counterfactually, we play games of make-believe, and we enter into fictional worlds of stories. As a rule, we find it *easy* to engage in a variety of imaginative activities when we are prompted to do so. But there are exceptions, in which we find it *hard*, whether due to an unwillingness or an inability, to engage in a prompted imaginative activity. **Imaginative resistance** is the phenomenon exemplified by these hard cases, especially as contrasted with the typical easy cases. (We will say more about the phenomenon in §1.)

Contemporary philosophers have spilled much ink over this phenomenon.<sup>1</sup> Some have sought to pin down the difference between the hard cases and the easy cases of prompted imaginative activities. Others have alleged that imaginative resistance holds significance for moral psychology, theories of cognitive architecture, and modal epistemology. Despite their ongoing intramural debates about the nature and significance of imaginative resistance, the majority of philosophers who have written on this topic share the belief that there is a philosophically-interesting phenomenon that calls for an explanation. That shared belief unites them as **imaginative resistance believers**.<sup>2</sup>

Not everyone is so convinced. The minority naysayers do not merely disagree with some particular way of explaining imaginative resistance or dispute some particular implication that imaginative resistance is said to have for other philosophical issues. Instead, they doubt the very existence of the phenomenon—at least its existence outside of philosophy journals and conferences. That shared doubt unites them as **imaginative resistance doubters**.<sup>3</sup> Here is a representative statement of this position:

For fictional worlds in general do not consist of isolated, a-contextual single propositions, and the few that have been mustered—or rather invented—in the literature as supposed examples of the phenomenon of imaginative resistance are testimony rather to the paucity of such cases in genuine fiction, whatever the situation might be in respect of propagandistic, simplistic and straightforwardly poor creations of impoverished skill and imagination. (Todd 2009, 191)

According to the doubters, the hard cases that philosophers have spilled much ink on are mere products of imaginative prompts that are artificially divorced from their respective appropriate contexts. What the believers fundamentally miss out on, the doubters say, is the importance of context for explaining (away) imaginative resistance.

Here, we put the debate between imaginative resistance believers and doubters to the empirical test. Spoiler: there is no clear winner. The results of our studies vindicate the believers' contention that there really is a phenomenon of imaginative

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<sup>1</sup>Walton (1994) begins the (renewed) philosophical interest in the phenomenon and traces the phenomenon's philosophical lineage to Hume (1757). The name "imaginative resistance" comes from Moran (1994). Gendler (2000) is the first to put the phenomenon and the term together. See Liao and Gendler (2014) for a review of proposed explanations and alleged implications of imaginative resistance.

<sup>2</sup>The roster of imaginative resistance believers include, in chronological order, Walton (1994, 2006), Gendler (2000, 2006), Yablo (2002), Currie (2002), Weatherson (2004), Weinberg and Meskin (2005, 2006), Levy (2005), Stokes (2006), Driver (2008), and Kung (2010).

<sup>3</sup>The roster of imaginative resistance doubters include, in chronological order, Tanner (1994), Mothersill (2003), and Todd (2009).

resistance that exists outside of philosophy journals and conferences. However, the results of our studies also vindicate the doubters' insight that there is a crucial contextual element that is missing from many believers' explanations—and, perhaps, even their characterizations—of imaginative resistance.

In §1, we clarify the phenomenon of imaginative resistance, give an example of an alleged hard case, and delineate the scope of our empirical investigation. In §2, we examine one specific contextual element that many existing explanations of imaginative resistance overlook: the genre of a story. In §3, we present two studies that collectively demonstrate the reality of imaginative resistance and bring out genre's significance in explaining the phenomenon. In §4, we discuss methodological issues that our empirical investigation raises for philosophical aesthetics.

## 1 Imaginative Resistance

To properly introduce the phenomenon of imaginative resistance, consider one of the alleged hard cases that is now standard in this literature:

*Death on a Freeway.* Jack and Jill were arguing again. This was not in itself unusual, but this time they were standing in the fast lane of I-95 having their argument. This was causing traffic to bank up a bit. It wasn't significantly worse than normally happened around Providence, not that you could have told that from the reactions of passing motorists. They were convinced that Jack and Jill, and not the volume of traffic, were the primary causes of the slowdown. They all forgot how bad traffic normally is along there. When Craig saw that the cause of the bankup had been Jack and Jill, he took his gun out of the glovebox and shot them. People then started driving over their bodies, and while the new speed hump caused some people to slow down a bit, mostly traffic returned to its normal speed. So Craig did the right thing, because Jack and Jill should have taken their argument somewhere else where they wouldn't get in anyone's way. (Weatherson 2004, 1)

For the moment, set aside the doubters' complaint that this story is merely one of the "propagandistic, simplistic and straightforwardly poor creations of impoverished skill and imagination" that populate the imaginative resistance literature. What do the believers take this story to show?

There are at least four distinct puzzles associated with imaginative resistance.<sup>4</sup> Each puzzle is associated with a typical reaction to the last sentence of "Death on a Freeway".<sup>5</sup> First, one has difficulty imagining that Craig's action is really morally right. This

<sup>4</sup>The four puzzles are disentangled in Weatherson (2004) and Walton (2006).

<sup>5</sup>Note that we are focusing on *persistent* reactions. It is a common literary technique to *temporarily jar* the audience in order to prompt her to reconsider, reinterpret, and re-engage with a story. For example, in reading a magical realist novel, an audience might initially find jarring the claim that a character was literally washed into this world on a great tide of tears, but subsequently find that the jarringness disappears when she comes to internalize the peculiar rules of this magical realist world. Liao (2013) gives the name

raises *the imaginability puzzle*: why, in certain cases, are people unwilling or unable to engage in a prompted imaginative activity? Second, one has difficulty accepting that it is fictional, or true in the story world, that Craig's action is really morally right. This raises *the fictionality puzzle*: why, in certain cases, does the default position of authorial authority break down, so that mere authorial say-so is insufficient to make it the case that something is true in a story? Third, one experiences a sense of jarring confusion in response to the sentence; the sentence "pops out" at the audience. This raises *the phenomenological puzzle*: why, in certain cases, do people experience such a phenomenology in response to a prompted imaginative activity? Fourth, one thinks that the story would be aesthetically superior if its final sentence were deleted. This gives rise to *the aesthetic value puzzle*: why are works that evoke the three puzzles above thereby aesthetically compromised?

In this paper, we will focus on only the imaginability puzzle and the fictionality puzzle. It is thus worthwhile to briefly disentangle the respective notions of *imagining* and *accepting as fictional* via a couple of quick examples. First, notice that sometimes one imagines something that one does not accept as fictional. For example, in the course of reading *Oedipus*, one might imagine what would have happened had Oedipus not discovered that his lover is also his mother, but does not accept it as fictional. Second, notice that sometimes one does not imagine something that one accepts as fictional. For example, when one is only trying to learn facts about *Oedipus* by reading a plot summary on Wikipedia, rather than imaginatively engaging with the story, one might accept as fictional that Oedipus discovered that his lover is also his mother, but without imagining it. Hence, while the imaginability and fictionality puzzles are clearly closely-related, they are nevertheless conceptually distinct.

Given this conceptual distinction, the imaginability and fictionality puzzles relate to empirical investigation in distinct ways. Since the imaginability puzzle asks why people are unwilling or unable to engage in a prompted imaginative activity in certain cases, it is straightforwardly concerned with a psychological phenomenon. An empirical investigation of the imaginability puzzle is direct: it aims to uncover the factors that causally influence people's imaginative difficulties.

In contrast, since the fictionality puzzle asks why mere authorial say-so is insufficient to make something true in a story in certain cases, it is not straightforwardly concerned with a psychological phenomenon. An empirical investigation of the fictionality puzzle is indirect: it aims to use ordinary people's acceptance of something as true in a story as strong but defeasible evidence for what is really true in a story. In other words, we are assuming that, without a defeater, uncovering the factors that causally influence people's judgments of what is fictional provides a good guide to uncovering factors that determine what makes an authorial say-so fictional.<sup>6</sup>

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"hermeneutic recalibration" to the typical reactions that this literary technique prompts, and distinguishes them from the typical imaginative resistance reactions.

<sup>6</sup>Of course, non-philosophers may lack the ability to articulate a coherent theory of fictional truths. However, they do seem possess the ability to reliably judge what is true in stories. For example, most people can correctly judge that it is true in the world of *Harry Potter* that Harry has only one heart and false that Snape is secretly in love with Malfoy, even though neither proposition is explicitly expressed in

## 2 The Significance of Genre

As we noted earlier, many of the initial diagnoses of the phenomenon tend to focus on particular propositions—notably morally deviant propositions—that evoke imaginative resistance, and so the explanations they advance tend to focus on the defining characteristics of those particular propositions. The following two quotes are indicative of this focus:

Imaginative resistance arises not only with evaluative predicates, but also with (certain) descriptive ones: ‘oval’, ‘aquiline’, ‘jagged’, ‘smooth’, ‘lilting’. What do these predicates have in common? *P makes for imaginative resistance if, and because, the concept it expresses is of the type we have called ‘grokking’, or response-enabled.*

Why should resistance and grokkingness be connected this way? It’s a feature of grokking concepts that their extension in a situation depends on how the situation does or would strike us. ‘Does or would strike us’ as we are: how we are represented as reacting, or invited to react, has nothing to do with it. (Yablo 2002, 485; our emphasis)

‘My best suspicion’ as to why we resist allowing fictional worlds to differ from the real world when we do, I said [in Walton (1994)], is that it ‘has something to do with an inability to imagine [certain kinds of supervenience relations] being different from how we think they are, perhaps an inability to understand fully what it would be like for them to be different.’ ... What seems to me to be important is a very particular kind of imaginative inability, one that *attaches to propositions expressing certain sorts of supervenience relations*, which the imaginer rejects. (Walton 2006, 145–146; our emphasis)

Before going further, let us illustrate these two diagnoses by returning to the hard case of “Death on a Freeway”. Recall the proposition expressed at the end of the story: <So Craig did the [morally] right thing [by killing Jack and Jill], because Jack and Jill should have taken their argument somewhere else, where they wouldn’t get in anyone’s way>. On Yablo’s diagnosis, this is a proposition that evokes imaginative resistance because it includes the response-enabled concept MORAL RIGHTNESS and the audiences do not actually think killing people for causing a traffic jam is the morally right thing to do. On Walton’s diagnosis, this is a proposition that evokes imaginative resistance because it expresses a supervenience relation, between moral claims and their non-moral bases, that the audiences reject; specifically, the audiences reject that <Craig did the morally right thing> can supervene on <Craig killed two people because they caused a traffic jam>.

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the books. Only the ability to reliably judge what is true in stories is required for our empirical investigation of the fictionality puzzle. The burden of proof, we believe, rests on those who wish to deny that ordinary people possess this ability, either in general or with particular cases.

Despite numerous substantive differences between them, these two diagnoses of imaginative resistance share a focus on the particular propositions that evoke imaginative resistance. Hence, they share the same fundamental assumption that explaining this phenomenon involves identifying a set of particular propositions that tend to prompt the characteristic reactions and explicating their defining characteristics.<sup>7</sup> For Yablo, the defining characteristic is the inclusion of response-dependence concepts. For Walton, the defining characteristic is the expression of supervenience relationships. These are very different diagnoses of imaginative resistance, of course, but they are both criticizable by the doubters for neglecting the contexts in which the particular propositions occur.

In this paper, we target one specific contextual element that is prominent with stories: genre. Although the role of genre has been noted in the imaginative resistance literature, its significance has not been fully developed.<sup>8</sup> Briefly, our view is that the genre conventions that govern a story partly determine which authorial say-sos can be fictional and audiences' genre expectations partly determine which propositions can be easily imagined. As we will argue in §4, genre is especially suitable for an empirical investigation of imaginative resistance because while there are theoretical reasons to think that genre exerts a significant influence on fictionality and imaginability, it is also relatively low in psychological salience. We will now lay out those theoretical reasons.

We adopt an inclusive notion of **genre**, according to which a genre is simply a grouping of representations that is recognized by the relevant community as having a special status. This inclusive notion of genre encompasses groupings that others might call medium, presentation, mode, or style.<sup>9</sup> The appropriate classification of a work in a genre depends on multiple factors that can sometimes conflict. For example, according to Walton (1970), a work's appropriate classification in a genre depends on its relevant resemblance to other works in that genre, the artist's intentions in creating the work, critical judgments of the work, and the genre's propensity for increasing the audience's aesthetic pleasure with the work.<sup>10</sup> Although adjudicating the conflicting factors can be difficult, and undoubtedly interest- and context-dependent, the invocations of genres in everyday discussions of stories suggest that people do tend to have a good pre-

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<sup>7</sup>The focus on particular propositions is not unique to the two diagnoses of imaginative resistance that we refer to here, but prevalent amongst nearly all of the initial diagnoses. See Liao and Gendler (2014), especially §3.1. Therefore, those diagnoses share the same fundamental assumption about how to best explain the phenomenon too.

<sup>8</sup>Gendler (2000) mentions genre, but only discusses a dichotomous distinction between distorting and nondistorting fictions. More recently, Weinberg and Meskin (2005, 2006) and Weinberg (2008) have also noted the importance of genre, even though they primarily focus on mental architecture; and Nanay (2010) mentions genre, but primarily focuses on an analogy with conversational pragmatics.

<sup>9</sup>For one real-world example, we have recently learned that the popular media-streaming service Netflix adopts an inclusive notion of genre that includes 90000+ categories with names such as "Biographical Showbiz 20th Century Period Pieces", "British set in Europe Sci-Fi & Fantasy from the 1960s", and "Understated Suspenseful Dramas starring Raymond Burr". See Alexis C. Madrigal, "How Netflix Reverse Engineered Hollywood", *The Atlantic*, January 2014.

<sup>10</sup>Actually, Walton uses the term "category of art". We prefer the term "genre" because it avoids difficult debates about the nature of art. In the philosophical literature, Currie (2004), Laetz and Lopes (2008), and Abell (2012) have developed alternative conceptions of genre.

theoretical grasp on how to classify stories in the appropriate genres.

Each genre is associated with a set of **genre conventions**, which are systematizations of the features common to works in a given genre. A work is better classified in a genre when it satisfies more of that genre's conventions, but a work could nevertheless fit into a genre even if it also violates some of that genre's conventions.<sup>11</sup> Think of some commonsensical generalizations: science-fictions allow the violation of physical laws, romantic comedies have happy endings, and horrors contain monsters that provoke fear. By picking out what a set of relevantly resembling works have in common, genre conventions also pick out systematic features that the respective fictional worlds have in common.<sup>12</sup> As a simplistic example, a convention of the fantasy genre is that fictional worlds can admit of the existence of magical items. On a *descriptive* reading, this convention says that it is not atypical for works that are appropriately classified in the fantasy genre to mention magical items. More importantly, on a *normative* reading, this convention says that a work's appropriate classification in the fantasy genre is what *warrants* its admittance of magical items into its fictional world.<sup>13</sup> If the work were a realistic fiction, no such warrant exists. Thus, genre influences what could be fictional because genre conventions normatively constrain which features could be found in fictional worlds of works in that genre.

The psychological analogs of genre conventions are audiences' **genre expectations**. On one influential account of fictionality, what is fictional is what a fiction prescribes its audiences to imagine.<sup>14</sup> Since genre conventions constrain what can be fictional, they also constrain what the audiences ought to imagine. To comply with a fiction's prescriptions, audiences align their expectations to the corresponding conventions.<sup>15</sup> As a simplistic example, audiences tend to not have difficulties imagining the existence of a psychic healing ring when engaging with a fantasy fiction because they have the genre expectation that a fantasy fiction world can admit of magical items.

Psychologically, genre expectations can be thought of as schemas for processing stories.<sup>16</sup> When a story expresses a proposition that violates the audience's genre expectation, the audience experiences comparative difficulties with imagining that proposition because the story processing becomes comparatively difficult. It is worth noting that genre expectations tend to be formed and deployed *quickly, automatically, and effortlessly*. In turn, the quickness, automaticity, and effortlessness of the formation and

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<sup>11</sup>For more on this point, see the discussion in Walton (1970) on the weighing of works' standard and contrastandard properties with respect to its appropriate category of art.

<sup>12</sup>We do not have philosophical explanations of why particular genres have particular conventions, such that, for example, moral deviance is prohibited by the genre conventions of realistic fictions and not prohibited by the genre conventions of zany fictions. Our suspicion is that, if there are such explanations, they have to come from literary theory, film theory, and other cognate disciplines. We thank a referee for pressing us to clarify the source of particular genre conventions.

<sup>13</sup>The idea that genre conventions warrant particular inferences about fictional truths can be found as early as the notion of *inter-fictional carry-overs* in Lewis (1978, 1983). See also Walton (1990).

<sup>14</sup>See Walton (1990) for the original account and Walton (2013) for a recent qualification.

<sup>15</sup>Weinberg and Meskin (2005) make similar suggestions about the relationship between genre conventions and audiences' expectations.

<sup>16</sup>Mandler (1984) articulates the notion of a schema in processing stories. Frow (2006) also connects genre expectations with story schemas in the context of literary theory.

deployment of genre expectations make them relatively low in psychological salience. In typical imaginative engagements, people simply “go along with the story”. They attend to what happens in the fiction instead of the subtle back-and-forth adjustments between a work’s appropriate genre classification and its fictional contents that happen psychologically. However, in cases of imaginative resistance, they have trouble going along in this way.

The recognition of genre’s influences on fictionality and imaginability leads to a diagnosis of imaginative resistance that moves beyond a singular focus on particular propositions. Since genre conventions partly influence what gets to be true in a fictional world, they constrain which authorial say-sos count as fictional. One way that authors can lose their default position of authorial authority is when they violate genre conventions. Similarly, genre expectations partly influence what is easily imaginable. Not surprisingly, since genre expectations tend to track genre conventions, the imaginative prompts that evoke the fictionality puzzle tend to also evoke the imaginative puzzle. However, individual differences may be found where an audience’s genre expectations fail to track the appropriate genre conventions.

A genre-friendly diagnosis of imaginative resistance can find theoretical support in the diversity of moral landscapes in fictional worlds. It is not difficult to think of genres that permit the inclusion of moral deviance, albeit sometimes very specific ones. One candidate is black comedy; Weinberg and Meskin (2006) mention Wile E. Coyote cartoons as an example. Other candidates are mythology, fairytales and fables, experimental fiction, and religion-influenced texts.<sup>17</sup> The diversity of fictional moral landscapes thus confirms the doubters’ insight that a complete explanation of imaginative resistance cannot neglect the importance of context. While some morally deviant propositions do evoke imaginative resistance, others do not. Focusing on particular propositions cannot help us explain why this, but attending to a contextual element, such as genre, can.

### 3 Empirical Investigation

In recent years, philosophers have begun to adopt empirical methods to try to bring new insights to longstanding philosophical debates.<sup>18</sup> Although this recent “experimental philosophy” tradition has covered a wide range of philosophical topics—free will, ethics, epistemology, philosophy of mind, and philosophy of language—aesthetics has been mostly neglected.<sup>19</sup> We believe that an empirical investigation of imaginative resistance can help to provide new insight into the debate between the believers and the doubters. In this section, we first briefly mention related psychological research and its limitations, then present two studies that we conducted, and finally discuss the theoretical upshots of our studies.

<sup>17</sup>For related discussions on our aesthetically-positive responses to mafia films and rough heroes, see, respectively, Landy (2008) and Eaton (2012).

<sup>18</sup>For a sample, see the papers collected in Nichols and Knobe (2008).

<sup>19</sup>Since the initial draft of this paper in 2009, experimental philosophical works in aesthetics have begun to appear in print. See, for example, Cova and Pain (2012) and Meskin et al. (2013).

### 3.1 The Psychological Literature on Transportation

The transportation literature in psychology is potentially relevant to philosophical discussions of imaginative resistance.<sup>20</sup> Roughly, an audience is *transported* when she is immersed in a fictional world.<sup>21</sup> Imaginative resistance can be seen as the opposite of transportation. In which case, Bilandzic and Busselle (2008)'s findings that familiarity with a genre—at least for some genres—is positively correlated with transportation give tentative support to a genre-friendly diagnosis of imaginative resistance.<sup>22</sup>

However, there are two potential problems with straightforwardly reading off philosophical conclusions from this psychological literature. First, while we have briefly suggested a way in which transportation might connect to imaginative resistance, more theoretical work is necessary to substantiate that link. Second, psychologists have focused solely on audiences' responses to simple descriptive claims in fictions, rather than the moral, evaluative, and response-dependent claims that have interested philosophers. It is an open empirical question whether people respond to moral, evaluative, and response-dependent claims in the same way that they respond to simple descriptive claims. The preliminary evidence from the transportation literature in psychology is therefore no substitute for a philosophically-informed empirical investigation of imaginative resistance.

### 3.2 Study 1: Moral Deviance in a Greek Myth-like Story

We began with a correlational study. Participants read a short story loosely based on the Greek myth “The Rape of Persephone” and answered questions about it. Participants were University of Michigan undergraduates (age 17–22, paid or given course credit). 74 participants received Questionnaire 1, which contained only questions about participants' actual evaluative attitude, and 33 participants received Questionnaire 2, which also contained questions about participants' genre competence. The study was run using pen and paper and took approximately 10 minutes to complete.

We used the following story in this study:<sup>23</sup>

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<sup>20</sup>Liao and Gendler (2011) discuss potential links between the philosophical literature on imaginative resistance and the psychological literature on transportation.

<sup>21</sup>On a more careful psychological characterization, transportation is “a distinct mental process, an integrative melding of attention, imagery, and feelings” (Green and Brock 2000, 701).

<sup>22</sup>Even if the transportation-imaginative resistance link can be established, we are hesitant to put too much evidential weight on these findings. As the authors themselves note, the findings are somewhat equivocal: “Genre-consistent attitudes held prior to exposure facilitate transportation [after repeated exposures], but transportation was not consistently related to increases in genre-related judgments after a single exposure” (Bilandzic and Busselle 2008, 508).

<sup>23</sup>As a referee points out, the stories we use in our studies do not explicitly express a morally deviant proposition, unlike standard cases in the imaginative resistance literature such as “Death on a Freeway”. Our choice of stimuli avoids a complaint that imaginative resistance doubters sometimes make regarding the standard imaginative resistance cases: that they seem like strange, artificial creations because the stories we commonly encounter typically do not explicitly describe the moral landscapes of the respective fictional worlds. However, we acknowledge that this difference can also constitute a limitation on generalizing from our studies to the specific imaginative resistance cases that other philosophers have proffered.

*The Story of Hippolytos & Larisa.* Hippolytos fell in love with Larisa. Out of his love for her, he played a trick on her by giving her a mint leaf to eat. Unaware of the consequences, Larisa proceeded to consume the leaf. Little did she know that this mint leaf was special. Consuming this special leaf would bind her to be with him for the rest of eternity. When Larisa's mother found out what Hippolytos had done, she appealed to Zeus to get her daughter back. But Zeus declared Hippolytos's action to be just, and that Larisa indeed must fulfill her obligations. And that was how Larisa came to be the wife of Hippolytos.

Although we intended for “The Story of Hippolytos & Larisa” to be read in the tradition of Greek mythology, participants were not given any information about the story's genre outside of what appears in the text.

Responses to the following questions were used in our analysis.<sup>24</sup>

- *Fictionality.* In the fictional world, is it morally right for Hippolytos to trick Larisa in order to be with her?
- *Imaginability.* How easy was it for you to imagine that it is okay for Hippolytos to trick Larisa to be with her?
- *Genre Competence.* How familiar do you consider yourself with Greek mythology?
- *Evaluative Attitude.* Do you personally agree with Zeus's command that Hippolytos's action is just?

The order of the questions was as listed, such that the questions about genre competence and evaluative attitude came after questions about imaginability and fictionality. Responses were given on a scale from 1 (not at all) to 7 (very much).<sup>25</sup>

It turned out that the believers are right about the existence of imaginative resistance outside of philosophy journals and conferences. Specifically, they are correct to think that morally deviant claims in stories can prompt imaginative resistance reactions. The audiences who more strongly morally disapprove of Hippolytos's trickery found it more difficult to accept as fictional and to imagine that it is morally right for Hippolytos to trick Larisa in order to be with her. There is a medium-to-large-sized, statistically-significant correlation between Evaluative Attitude and Fictionality ( $r=0.50$ ,  $p<0.001$ ; see Figure 1a) and between Evaluative Attitude and Imaginability ( $r=0.39$ ,  $p=0.001$ ; see Figure 1b).<sup>26</sup>

However, it also turned out that the doubters are right about the importance of context. The audiences who are more familiar with stories in the tradition of Greek

<sup>24</sup>Balancing philosophical rigor with questions that participants can understand is tricky. For example, we cannot simply ask participants whether they are experiencing imaginative resistance, since this is not part of the folk lexicon. We acknowledge that our probes reflect this tradeoff between precision and clarity.

<sup>25</sup>We did not offer participants an option to respond “no opinion” to these questions. As a referee points out, this means that the midpoint on the Likert scales can really represent two distinct kinds of responses: a middling judgment and a lack of judgment altogether. We acknowledge that this ambiguity is a limitation of our studies.

<sup>26</sup>Ultimately we are interested in the relative strengths of different factors that can influence imaginability and fictionality. However, since our studies lack precedents that could help with that kind of contextualization, we will follow the conventional criteria set out in Cohen (1988) to describe effect sizes.

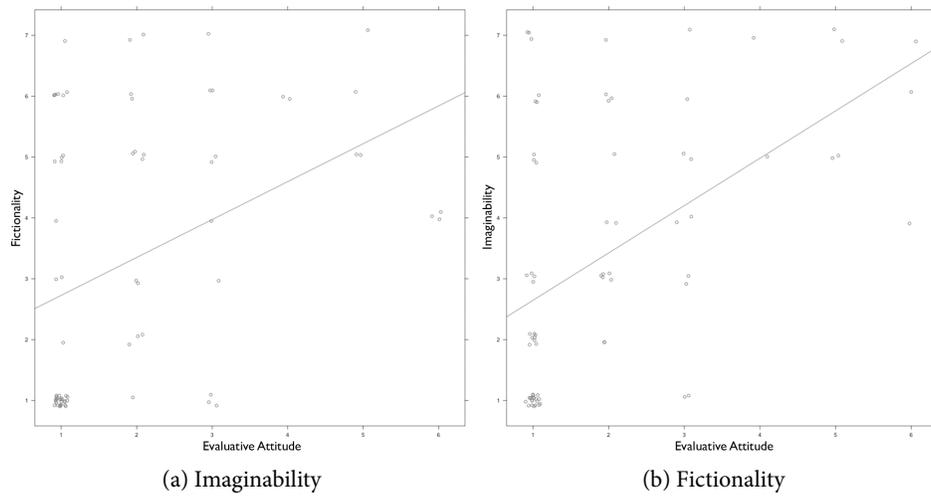


Figure 1: Evaluative Attitude’s influence on Imaginability and on Fictionality

mythology found it easier to accept as fictional and to imagine that it is morally right for Hippolytos to trick Larisa in order to be with her. On our hypothesis, there exists this correlation because audiences who are more familiar with stories in the tradition of Greek mythology were more ready to accept divine command theory in a story that is in the style of that genre, and to therefore allow Zeus’s command to override their own actual moral disapproval when they engage with the story. There is a large-sized, statistically-significant correlation between Genre Competence and Fictionality ( $r=0.52, p=0.002$ ; see Figure 2a) and between Genre Competence and Imaginability ( $r=0.54, p=0.001$ ; see Figure 2b).

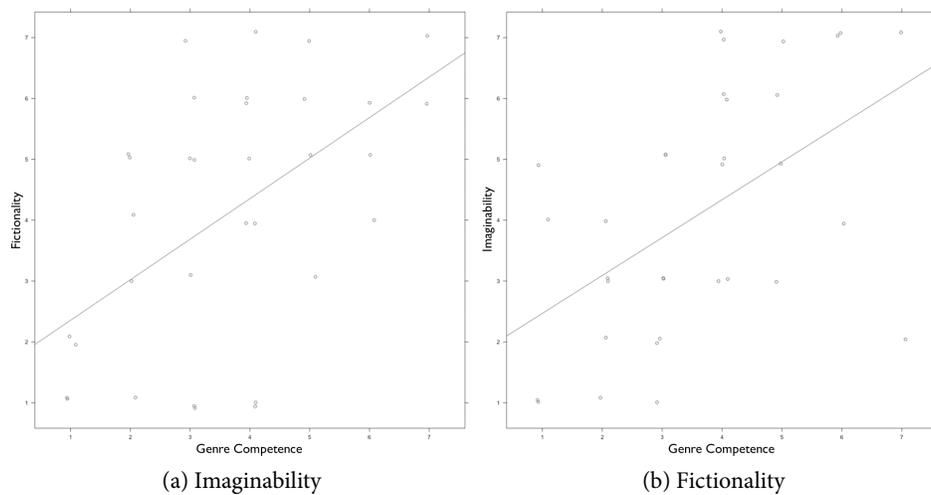


Figure 2: Genre Competence’s influence on Imaginability and on Fictionality

### 3.3 Study 2: Police Procedural vs. Aztec Myth

We then conducted an experimental follow-up study that manipulated participants' genre expectations. The manipulation was within-participant. Participants were recruited online via Amazon Mechanical Turk (age 18–82, age median=27.5, paid, US-only).<sup>27</sup> We ran the study online using Qualtrics questionnaire software and it took approximately 5 minutes to complete. Those who failed an initial instruction-comprehension question were excluded from the analysis, and 30 participants remained.<sup>28</sup>

Participants first read two stories that appear to be similar in basic plot but differ in their genres, and then responded to questions about each story.<sup>29</sup> The order in which participants received the stories was counterbalanced. In the *police procedural* condition, participants were told that they will read an excerpt from a police procedural short story, similar to what they might find on TV shows such as *Law & Order* and *CSI*. In the *Aztec myth* condition, participants were told that they will read an excerpt from an Aztec creation myth, similar to what they might find in creation myths of Greek, Norse, or other cultures. We used the following stories in this study:

(police procedural)

*Seeing the Light*. February 14th, 2010. Texas. There was only darkness. Everyone gathered around the preacher, Wayne Howell, for an announcement. "A message from the almighty came to me. The youngest girl must be sacrificed in order to bring back the light." They believed his every word. All eyes then turned to Mary, who had just given birth to a baby girl. Reluctantly, Mary gave her baby to the preacher to be sacrificed.

(Aztec myth)

*The Sun of the Second Creation*. A long, long time ago, in the valley of Mexico, there was only darkness. Everyone gathered around the high priest, Cihuacoatl, for an announcement. "A message from the gods came to me. The youngest girl must be sacrificed in order to renew the sun." They believed his every word. All eyes then turned to Ixchel, who had just given birth to a baby girl. Reluctantly, Ixchel gave her baby to the high priest to be sacrificed.

Participants were then asked, in random order, two questions about each story:

- *Morality*. In the world of the story, Mary/Ixchel did the right thing.
- *Belief*. Mary/Ixchel believed she did the right thing.

Responses were given on a scale from 1 (strongly disagree) to 7 (strongly agree).<sup>30</sup>

<sup>27</sup>According to [Buhrmester et al. \(2011\)](#), data gathered using Amazon Mechanical Turk are at least as reliable as data gathered via traditional in-person methods. Furthermore, the participants on Amazon Mechanical Turk are more demographically diverse than traditional college samples.

<sup>28</sup>According to [Oppenheimer et al. \(2009\)](#), the use of an instructional manipulation check can increase the reliability of a dataset.

<sup>29</sup>Prior to reading the two stories, participants were told: "In this study, you will read two fictional short stories or excerpts that are randomly chosen from our database, and then answer a couple of questions about each. Some participants may receive stories that appear similar at first. Please carefully read them on their own terms and answer the questions on that basis."

<sup>30</sup>See [footnote 23](#) and [footnote 25](#) for limitations that this study shares with the previous one.

Before discussing the results, let us highlight two important differences between this study and the previous one, and the motivations behind these modifications.<sup>31</sup> First, in this study we did not explicitly ask participants about their imaginability and fictionality judgments; instead, we asked them the fit of particular propositions to the respective fictional worlds. Since we observed in Study 1 that participants' imaginability and fictionality judgments tend to go hand in hand, we thought that there was no need to distinguish the two questions in this study. (Our observation is also consistent with the pre-experimental expectation that the imaginability and fictionality puzzles are closely related, and that audiences' genre expectations tend to track genre conventions.) We also thought that explicitly asking participants about what they imagine and accept as fictional could introduce experimental demand characteristics. Given that people typically talk about what happens in the stories instead of what they imagine and accept as fictional, posing questions that are about the story itself gives us another, and arguably more natural, way of understanding how people make inferences in their imaginings and with fictional truths. Second, in this study we introduced a question about a fictional character's moral belief in addition to the question about the moral landscape of the fictional world. All participants of the imaginative resistance debate agree that a fictional character's morally deviant beliefs need not evoke imaginative resistance. What is in dispute is whether moral deviance in the fictional world can evoke imaginative resistance, and in what context. So, to make sure that our experiment is really getting at the latter, we needed a way to verify that participants were not confusing a fictional character's moral belief with the moral landscape of the fictional world. Only then can we reasonably infer that participants' imaginative resistance reactions, if any, were indeed driven by the moral deviance in the fictional world.

The results from this study partly vindicated the believers' contentions. With the police procedural "Seeing the Light", participants tend to not accept that the fictional world is morally deviant—specifically, such that female infanticide is actually morally right (*Morality*  $M=3.03$ ;  $SD=2.173$ ). Keep in mind that participants do tend to accept that the main fictional character, Mary, has a morally deviant belief (*Belief*  $M=5.60$ ;  $SD=1.248$ ). Hence, Study 2 also supports the existence of imaginative resistance.

Moreover, comparisons across conditions clearly show that participants are not confusing a fictional character's moral beliefs with the moral reality of the fictional world, and imaginative resistance really is driven by the latter. There is no difference between participants' acceptance of the main fictional characters' morally deviant beliefs in the two stories. Participants tended to accept both that Mary believed she did the right thing (*Belief*  $M=5.60$ ;  $SD=1.248$ ) and that Ixchel believed she did the right thing (*Belief*  $M=5.93$ ;  $SD=1.413$ ). The experimental manipulation did not produce a statistically significant effect with respect to the Belief question (Figure 3a).

However, there is a difference between participants' acceptance of moral deviance in the two fictional worlds. While participants tended to not accept that Mary actually did the morally right thing in the police procedural (*Morality*  $M=3.03$ ;  $SD=2.173$ ), participants tended to accept that Ixchel actually did the morally right thing in the

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<sup>31</sup>We thank the referees for encouraging us to detail the motivations.

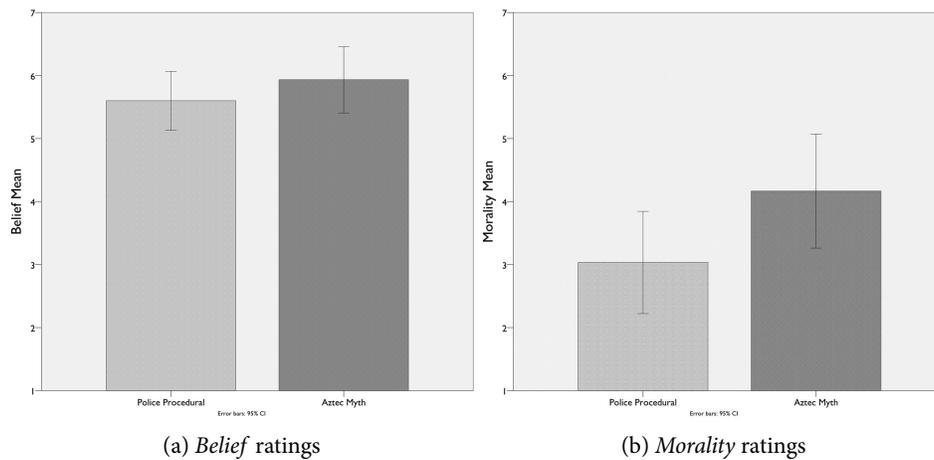


Figure 3: Belief and Morality means in police procedural and Aztec myth conditions

Aztec myth (*Morality*  $M=4.17$ ;  $SD=2.422$ ). The experimental manipulation produced a statistically significant large effect with respect to the Morality question ( $t(29)=3.42$ ,  $p=0.002$ , effect size  $r=0.54$ ; Figure 3b). On the hypothesis we advanced, the reason that the same proposition can evoke imaginative resistance in one story but not the other has to do with the different genre conventions that govern the respective story worlds and the different genre expectations that audiences have respectively.<sup>32</sup> Hence, the results from this study also partly vindicated the doubters' contentions, specifically regarding the importance of context.

### 3.4 General Discussion

We started the paper with a debate between imaginative resistance believers and imaginative resistance doubters. The believers contend that imaginative resistance is a real, philosophically-interesting phenomenon that calls for an explanation. The doubters contend that the so-called imaginative resistance is only an artifact of divorcing context from the imaginative prompts that believers have focused on.

<sup>32</sup>A referee notes that the difference between participants' reactions to the two stories can also be due to differences with the time and place settings of the two stories (a long long time ago in Aztec Mexico vs. contemporary Texas), and argues that this alternative explanation undermines our hypothesis. While we find the referee's explanation plausible, we also believe that it is still broadly consistent with our emphasis on genre differences between two stories because we think that time and place difference can constitute genre differences. To take one real-world example, when journalist Alexis C. Madrigal catalogued the genres used on Netflix, he found that they tend to follow the formula of "Region + Adjectives + Noun Genre + Based On... + Set In... + From the... + About... + For Age X to Y" (*op. cit.*, our emphasis). On this categorization scheme, the setting of a story is one determiner of its appropriate genre classification. See footnote 9 for a couple examples of Netflix genres that specifically mention a film's time or place settings. More importantly, even if one had a less inclusive notion of genre and considered time and place settings to be contextual elements distinct from genre, the results of this study would still support the general point that context is important for properly diagnosing imaginative resistance.

Our studies show that both sides are right about some things but wrong about others. The believers are right to think that there is a real phenomenon about imaginability and fictionality that can be brought out with moral deviances in fictions. However, the doubters are right to think that this phenomenon cannot be properly diagnosed without an attention to context. Our studies target the contextual element of genre. Study 1 shows that a lack of genre competence is strongly correlated with comparative difficulties in imagining and accepting as fictional the morally deviant proposition presented. Study 2 shows that manipulating genre can vary the level of resistance that is evoked by the morally deviant proposition presented. Together, the studies show that imaginative resistance is real, but also that its complete explanation must grant context a significant role.

We endorse *explanatory cosmopolitanism* with respect to imaginative resistance. As we see it, this is a complicated phenomenon whose complete explanation must include multiple factors. The nature of the imaginative prompt is one explanatory factor, the contextual element of genre is another, and there may well be others that are waiting to be uncovered. In contrast, some of the initial diagnoses of imaginative resistance—such as the ones highlighted in §2—can be read as endorsing *explanatory provincialism*: they aim to explain imaginative resistance by focusing on one factor, namely the nature of the particular propositions that tend to evoke imaginative resistance. In the final section of this paper, we will argue that empirical methods should be especially attractive to other explanatory cosmopolitans because, given the nature of human psychology, empirical methods can aid us in uncovering underexplored explanatory factors.

## 4 Empirical Methodology

Since the use of empirical methods is still relatively new to philosophical aesthetics, we will conclude by explaining why it is appropriate for this debate. In short: why do experiments at all? Can we not figure out what factors drive imaginative resistance without recourse to empirical studies?<sup>33</sup>

Before answering this question, it is worth considering another one. Why was genre conspicuously absent from, or at least not properly appreciated by, the majority of the initial diagnoses of imaginative resistance? Here is our somewhat speculative suggestion: philosophers start theorizing about imaginative resistance when they notice their own comparative difficulties with imagining and accepting as fictional particular propositions that are presented in stories. They begin the process of constructing candidate theories to explain the phenomena by introspecting their own minds in search of the source of their own comparative difficulties. These introspections are naturally biased towards noticing and focusing on factors that have a high degree of psychological salience. (By definition, factors with low salience are not readily noticed and thus

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<sup>33</sup>As a referee notes, there is a sense in which even philosophers' introspections of their own responses can count as "empirical" in the ordinary sense. To clarify, we are using the term "empirical" in a more technical sense to apply only to methods that use statistical models to make inferences from data sets. Hence, philosophers' introspections fail to count as empirical studies on this technical sense not because they involve an extremely small sample, but because they do not involve statistical inferences.

do not become the objects of further scrutiny.) Sure enough, there is a factor that is highly psychologically salient that does explain, in part, imaginative resistance: the nature of particular propositions that evoked their imaginative resistance reactions—especially, in paradigmatic cases, these propositions’ morally deviant content.<sup>34</sup> This then becomes the focus of their philosophical theorizing.

Genre, in contrast, is not so psychologically salient. As we note earlier, genre expectations are formed and deployed quickly, automatically, and effortlessly. When audiences encounter a sentence such as “the spaceship is traveling faster than the speed of light” in a science-fiction story, they do not consciously think to themselves *this story seems to be a science-fiction, so violations of physical laws are to be expected, and so I should indeed imagine that the spaceship is traveling faster than the speed of light*. They simply imagine the proposition expressed with the appropriate expectations already in place. Like many other fast, automatic processes, the formation and deployment of genre expectations tend not to be open to introspective access. Since genre has a low degree of psychological salience, it has for the most part been overlooked by philosophers as a candidate factor that explains imaginative resistance.

Let us return to the question we posed earlier: Can we not figure out what factors drive imaginative resistance without recourse to empirical studies? Our answer is twofold.

First, empirical methods provide a means to readily demonstrate that some factor is indeed influencing one’s judgments, even when that factor is not very psychologically salient or introspectively accessible. For example, tests of association (such as correlation tests) can provide strong evidence that two psychological variables (such as two judgment processes) are linked, though the link itself may not be readily detectable from introspection alone. Using correlation tests in Study 1 and an experimental manipulation in Study 2, we showed that genre conventions and expectations are likely exerting significant influences on people’s imaginative resistance reactions. It is highly unlikely that participants themselves were aware that their competence with genre conventions was affecting what they imagine and accept as fictional—though the statistical tests provided strong evidence for this influence.

Second, the question posed offers a false dichotomy in which one must choose between armchair methods and empirical methods. Other disciplines do not mandate either/or choices of this sort, but rather recognize that theoretical reflections and empirical studies can both make important contributions. There is in fact no competition.

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<sup>34</sup>Sripada and Konrath (2011) argue that normative variables, such as moral ones, are overemphasized in explaining asymmetries in attributions of intentionality, and the high psychological salience of these variables is the root cause. Sripada and Konrath speculate that normative variables may be more psychologically salient and consciously accessible because evaluations in these domains tend to involve high affect.

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