



# How do we regard fictional people? How do they regard us?

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Accepted: 26 May 2023  
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## Abstract

Readers assume that commonplace properties of the real world also hold in realistic fiction. They believe, for example, that the usual physical laws continue to apply. But controversy exists in theories of fiction about whether real *individuals* exist in the story's world. Does Queen Victoria exist in the world of *Jane Eyre*, even though Victoria is not mentioned in it? The experiments we report here find that when participants are prompted to consider the world of a fictional individual ("Consider the world of *Jane Eyre* . . ."), they are willing to say that a real individual (e.g., Queen Victoria) can exist in the same world. But when participants are prompted to consider the world of a real individual, they are less willing to say that a fictional individual can exist in that world. The asymmetry occurs when we ask participants both if a real person *is* in the character's world and if the person *would* appear there. However, the effect is subject to spatial and temporal constraints. When the person and the character share spatial and temporal settings, interchange is more likely to occur. These results shed light on the author's implicit contract with the reader, which can license the reader to augment a fictional world with features that the author only implicates as part of the work's background.

**Keywords** Fiction · Reasoning · Literature · Possible worlds

Psychological studies of fiction view people as possessing mental representations—"situation models"—that describe the story's content. These models organize the story's events along temporal-causal, spatial, and possibly other dimensions (see Radvansky & Zacks, 2014, and Zwaan, 2016, for reviews). However, understanding fiction also requires people to grasp, not just the story's events as they unfold, but also the underlying framework that guides the story. People need to predict what *might* happen and who *might* appear in order to appreciate later developments as expected outcomes or surprising twists. We can think of this background as the *world* in which the story or novel takes place: the generalized setting for its events. The world of the story is the space of possibilities that the story projects and that guides people in thinking about fiction. But little is known about how people elaborate these possibilities.

In filling out the story world, people bring to bear their knowledge of principles that govern everyday situations, including causal laws and human motives. People expect

that if a character drops an object it will fall, and that if a character wants an object and believes an action will obtain it then he or she will carry out that action. But it's a point of controversy how broadly readers import facts into fiction. Although they can import general principles, do they also import particulars, such as individual people or places?

On the one hand, there's the intuition that the fiction/reality boundary is absolute, so that real people cannot appear in novels and characters can't appear in reality. According to this view, although novels sometimes mention names of real individuals, the names don't denote those individuals, but only a fictional surrogate or no one. For example, E. L. Doctorow's novel *Ragtime* mentions "Houdini," "Emma Goldman," "Evelyn Nesbit," and others. But you could hold that these names refer to fictional counterparts rather than to the real-world people who shared these names. This seems especially likely when the actions of these characters depart from the actions of their real-world namesakes, as happens in *Ragtime* and many other works. Call this idea the *closed-world* approach to understanding fiction. On this view, a work's fictional status seals off its entities, so that "all of the characters . . . are fictitious, and any resemblance to actual persons . . . is purely coincidental."

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On the other hand, one could argue that real people can be named in novels and that correctly understanding a novel depends on establishing these connections. For example, understanding *Ragtime* involves knowing that real people play a role in its action. On this view, which we'll call the *open-world* approach, people build their representation of fiction on top of, and intertwined with, a model of reality. The representation for a novel like *Ragtime* would start from readers' preexisting representation of early 20th-century America, including the people who lived during that era. Of course, authors are free to cancel some of these expectations. But aside from this authorial tinkering, the representation potentially incorporates real entities. A *reality assumption* (Friend, 2017) or *principle of minimal departure* (Ryan, 1980) governs representations of fiction: People include as much of the real setting as possible, consistent with the text.

On a practical level, the difference between the closed- and open-world approaches has important legal implications. Despite disclaimers about the "coincidence" of characters and real people, people can successfully sue authors and publishers of novels for libel, provided they can show that the fictional portrayal is "of and concerning" them (e.g., Bindrim v. Mitchell, 1979; Fetler v. Houghton Mifflin Co., 1966). If the closed-world approach is correct, no such suits should succeed, since no mention of a character could possibly refer to the real person. But if the open-world approach is right, then reference in fiction can indeed be "of and concerning" that person, even if the description contains false (defamatory) content.

On a theoretical level, the open-world/closed-world distinction is important because of its implications for psychological semantics—for the way in which people believe information conveyed in fiction is tied to reality. According to the closed-world approach, people would *not* have warrant to assume that the "Houdini" in a novel refers to the real magician. Although explicitly mentioned individuals would, of course, appear in the situation model of the work, readers would believe that their names refer to fictional entities or to nothing. On this view, names like "London" or "Houdini" in novels refer to fictional surrogates or to no one (e.g., Adams, 1985; de Ponte et al., 2020; Doležel, 1989; Frege, 1897/1979; Motoarca, 2014; Voltolini, 2013):

My thesis is that there are *no* immigrant characters imported in fiction from reality. All characters are native characters, i.e., fictional entities. Some of them involve no correlation with real entities, while some involve such a correlation—in this sense, they are fictional surrogates of real entities—yet the real entities the latter are correlated with do not figure at all in the relevant works. If there is a gap between fiction and reality, this is a *total* gap. (Voltolini, 2013, p. 238, emphasis in original)

Similarly, according to Frege (1897/1979, p. 130), "Even the proper names in the drama [Schiller's *Don Carlos*], though they correspond to the names of historical personages, are mock proper names; they are not meant to be taken seriously in the work." As already noted, this does not imply that readers cannot use general information to understand fiction, nor does it imply that readers cannot draw information from fiction about general matters. But the closed-world theory does place limits on what readers can infer about the real individuals whose names appear in the book. For example, readers should draw no conclusions about the real Houdini from their knowledge of the Houdini in *Ragtime*.

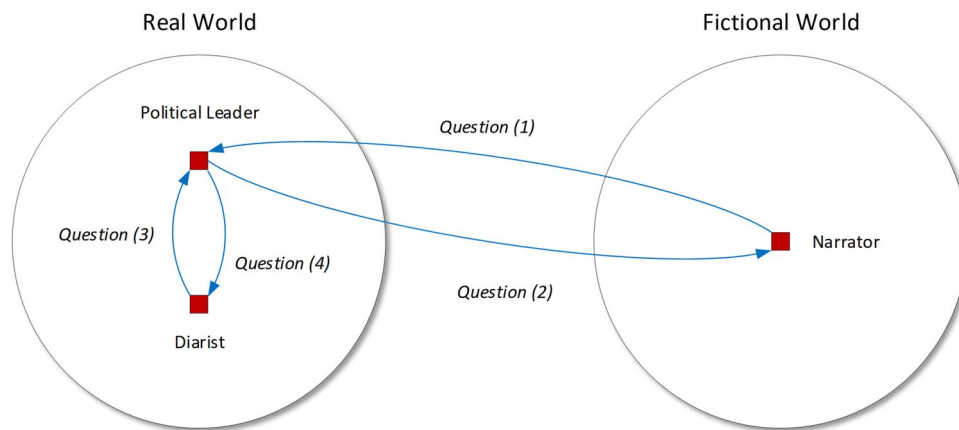
However, the closed-world theory may go too far in cutting off referring expressions in fiction from real individuals. An author's mention of the name of a real individual invites readers to use their knowledge of the individual to understand the story:

Surely, the reader of the Sherlock Holmes stories is supposed to understand that "London," as it occurs in the stories, refers to London. . . . The Holmes stories are about (among other things) London, not "the London of the Holmes stories," if that's supposed to be something other than London itself (Currie, 1990, p. 5).

Because there are an enormous number of real-world objects in any realistic setting, people could not possibly represent all of them. However, the fictional setting could license their presence. If a person is explicitly asked whether a real-world entity is in the novel's world, the open-world approach predicts a "yes" answer.

This conflict in intuitions is especially clear for real individuals who are *not* explicitly mentioned in the story but belong to the story's setting. If we construct a model of fiction on top of our knowledge of the setting, as the open-world theory contends, then we should carry over entities from that setting, whether or not they appear in the story. Victoria never graces the Sherlock Holmes stories, but people may think she *could* appear in them. According to the closed-world approach, though, unmentioned real individuals are not part of the model at all.

The difference between the open- and closed-world approaches appears as possible asymmetries in questions about the coexistence of real and fictional individuals. Suppose the open-world approach is right. If we ask whether a real, but unmentioned, individual is in the world of the novel, people should answer "yes." But if we ask whether a fictional person from the novel is in the real world, they should answer "no." Victoria is in the world of Holmes, but Holmes is not in the world of Victoria.



**Fig. 1** Relation between question types in Experiment 1. Each arrow represents a question of the form: Could the individual at the base of the arrow be in the world of the individual at the head of the arrow? (See text for the exact question wording.)

We will refer to this asymmetry as the *standpoint effect* (Lamarque & Olsen, 1994).<sup>1</sup> By contrast, the closed-world approach predicts symmetry: Victoria is no more in Holmes's world than Holmes in Victoria's. The goal of this article is to examine this prediction—for the first time, to our knowledge—about the perceived presence of real, but unmentioned, individuals in fiction.

The standpoint effect is *not* about the on-line processing of fiction, nor about the comprehension of (or memory for) fiction, but about people's *reasoning about* fiction. Inferences of this sort (e.g., "Would Victoria exist in the world of Holmes?") might occur to people as they comprehend the story, but they need not. We therefore use direct questions to probe these inferences.

## Experiment 1: Novels and diaries

The open-world theory predicts that when people adopt a standpoint inside a novel, they should be more likely to believe that a character from the novel and a real person could co-exist than when they take a standpoint outside the novel. To test this prediction, we ask participants whether the narrators of passages from novels would appear in the world of real political figures of the same era, and whether

the same political figures would appear in the fictional world of the novels. The key questions have the forms in (1) and (2):

- (1) Consider the world of [an actual political leader of the same era as the novel]. Would [the novel's narrator] also exist in the same world?
- (2) Consider the world of [the novel's narrator]. Would [an actual political leader of the same era as the novel] also exist in the same world?

Proper names replace the bracketed descriptors in (1) and (2). In the case of *Jane Eyre*, for example, we ask (among other questions), "Consider the world of Queen Victoria. Would Jane Eyre (the character) also exist in the same world?" and "Consider the world of Jane Eyre (the character). Would Queen Victoria also exist in the same world?" Figure 1 illustrates the relation between these two questions. Circles in the diagram indicate the fictional world of the narrator and the real world of the politician. Numbers on the arrows correspond to the numbers of the key questions (e.g., Questions 1 and 2 above), with the tail of the arrow at the individual whose status is the focus of the question (the narrator in the case of Question 1 and the politician in Question 2) and the head of the arrow at the individual whose world is the destination (politician in Question 1 and narrator in Question 2).

To help isolate the effect of the fictional status of the novels' characters, we also ask participants to imagine that the same passage was part of an actual diary written at the same time as the novel's setting. Participants answer Questions 3 and 4 on this new basis:

- (3) Consider the world of [an actual political leader of the same era as the novel]. Would the narrator of the diary also exist in the same world?

<sup>1</sup> We use "standpoint" instead of Lamarque and Olsen's (1994) distinction between "internal" and "external perspectives," since "perspective" can be taken to refer to point of view within a story (e.g., first-person perspective). Research has explored whether readers take the perspective of a protagonist during comprehension (e.g., Brunyé et al., 2009). However, our concern here is not with the perspective of characters, but instead with reasoning about the real or fictional status of individuals. Note, too, that a third-person perspective is not equivalent to an external standpoint. With a few metafictional exceptions, the standpoint of third-person narrators is internal to the world of the novel.

**Table 1** Novels/stories in Experiment 1 and corresponding real-world figures

Novel or story (fictional narrator)	People from same country	People from different country
<i>Jane Eyre</i> (Jane Eyre)	Queen Victoria <sup>a</sup> Earl Russell	James Polk John Calhoun
<i>Adventures of Sherlock Holmes</i> (Dr. John Watson)	William Gladstone Charles Parnell	Grover Cleveland Levi Morton
<i>The Great Gatsby</i> (Nick Carraway)	Calvin Coolidge Charles Evans Hughes	Joseph Stalin Nikolai Bukharin
<i>Breakfast at Tiffany's</i> (Fred)	Dwight Eisenhower Estes Kefauver	Queen Elizabeth II Harold Macmillan

<sup>a</sup>Within each cell, the first individual was rated as better known than the second in the norming study described in Appendix B

- (4) Consider the world of the narrator of the diary. Would [an actual political leader of the same era as the novel] also exist in the same world?

For the *Jane Eyre* example, two of the questions are: “Consider the world of Queen Victoria. Would the narrator of the diary also exist in the same world?” and “Consider the world of the narrator of the diary. Would Queen Victoria also exist in the same world?” Figure 1 also shows the relation between these questions and the earlier ones.

We expect that participants will be more likely to answer “yes” to Question 2 than to Question 1—this is the stand-point prediction. However, they should give similarly large proportions of “yes” answers to (3) and (4). Because the diarist is a real person, and alive at that time, participants should believe that both the diarist and the political figure inhabit the same world—the actual world. Thus, a difference between Questions 1 and 2 in the absence of one between Questions 3 and 4 would imply that the former difference is not due to the passages’ content or to the questions’ information structure, which is the same in both cases.

We also test whether people are sensitive to details within the fictional world. In particular, we check whether people from the country in which the novel is set are more likely to inhabit each other’s worlds than are people from different countries. For example, Queen Victoria should be more likely to be in the world of *Jane Eyre* than should James Polk (the former U.S. president). Similarly, more famous real people may be more likely to be in the world of a novel than less famous ones. Famous people affect the novel’s setting more than less famous ones, even if they are never mentioned in the novel. Potential causal influence on the fictional setting may therefore make these people more visible from within the novel. If so (and to continue our *Jane Eyre* example), we should predict more “yes” responses to whether Queen Victoria can exist in the world of *Jane Eyre* than to whether Earl Russell (the U.K. Prime Minister from 1846–1852 and 1865–1866) can exist there. To examine these possibilities, we vary whether the political leader and the narrator in

Questions 1–4 are from the same or different countries and, also, the fame of the political leader.

## Method

### Participants

We recruited 59 participants through Mechanical Turk. Because we know of no algorithm for estimating power for the type of analysis we used (a mixed model analysis of variance with a binomial response function), we simulated the power of detecting an effect of the size we had found earlier (in Salomon & Rips, 2016, Experiment 2). The earlier experiment was similar to this one in asking participants to decide whether real political figures could exist within fictional worlds and whether fictional characters could exist in the real world. The simulation found a power of .88 for a sample size of 50 participants and four books, based on 5,000 data sets, randomly generated from a Bernoulli distribution.

All participants were in the U.S., and they identified themselves as native English speakers. Participants received \$3 for their cooperation. Participants’ data for a given novel were included only if, in catch trials following the main experiment, they correctly identified the people mentioned in connection with the novel as real or fictional (see the Procedure section and Table 1). The analysis excluded eight participants who made mistakes on catch trials for all four novels. There were 51 remaining participants (28 female) with a mean age of 38 and a range of 25–69. The responses retained from these latter participants amounted to 80% of the total possible trials.

### Procedure

At the beginning of each block of trials, participants read preliminary information about one of four fictional works, including the author, publication date, and the name of the narrator. The preliminary information also described four real people—political leaders—two from the same country

in which the novel was set, and two from a different country. Within each pair, one leader was relatively well known; the other less well known, as Table 1 indicates. Participants read brief descriptions of the leaders (e.g., “James Polk was President of the United States”) and were told that all of them were alive at around the time the novel was set.

After reading this background information, participants read a short excerpt from the novel, which had a first-person point of view. These passages appear in Appendix A. Participants then answered eight questions about the relationship between the narrator of the passage and the four real people, following the format of Questions 1 and 2. Participants were under instructions that stated: “By ‘being in the same world,’ we do not just mean that the individuals are in a similar type of environment. Instead, individuals in the same world could, at least in theory, meet and physically interact with one another.” The instructions also cautioned, “In considering each character or narrator, we do not want you to think of a person that merely has the same characteristics as that character. Nor should you think of a picture, movie, or other representation of the character. Rather you should think of the character him- or herself.”

Participants answered the questions by clicking on a radio button for “yes” or “no.” We used binary responses instead of a three-response format (with, e.g., a “don’t know,” “indeterminate,” or “neither” option) since an intermediate answer can tempt participants to choose it as a way of avoiding careful consideration of the questions.

After participants answered these questions, they were asked to think about the excerpt they had just read and to imagine that it was a diary entry made at the same time and location as the novel’s setting. Participants were reminded that the same political figures mentioned earlier were prominent around that time, and they were asked to consider whether the diary writer would exist in the world of each of the real-world political figures and whether each of the real-world political figures would exist in the world of the diary writer, following the format of Questions 3 and 4.

There were four blocks of trials, corresponding to the four novels. The blocks appeared in a random order (newly randomized for each participant). Within each block, the questions about narrators also appeared randomly, as did the following questions about diarists. After completing the four blocks, participants answered a series of catch-trial questions that asked, for each of the 20 people mentioned in the earlier questions (those in Table 1), whether that person was real or fictional. Finally, participants answered a few debriefing questions, including which of the four books they had previously read. For each of Question Types 1–4, we also asked whether they had answered “yes” to any questions in that category and, if so, why. Further debriefing questions asked about participant demographics (age, gender, level of education, and native language). Instructions,

experimental questions, catch trials, and debriefing were presented through the Qualtrics Research Suite. The study took approximately 20 minutes to complete.

## Materials

The present study tests the standpoint prediction by giving participants four passages (correctly) identified as excerpts from *Jane Eyre*, *The Great Gatsby*, *Breakfast at Tiffany’s*, and *The Adventures of Sherlock Holmes* (see Appendix A for these passages). The purpose of the passages was to make vivid the novels’ context, especially for participants who hadn’t read the novels. We chose passages that focused on an event in which the narrator played a leading role, one that could also serve as a possible diary entry for a similar real person. Within our final sample of participants, 29% had previously read *Jane Eyre*, 63% *The Great Gatsby*, 33% *The Adventures of Sherlock Holmes*, and 9% *Breakfast at Tiffany’s*. We chose realistic fiction in preference to science fiction or fantasy because the grip of the minimal-departure principle relaxes in the latter genres, and people are less likely to assume by default that real individuals inhabit these novels’ worlds. The standpoint effect is probably less pronounced in sci fi or fantasy, and we acknowledge that it may not hold in fiction of this sort.

For each novel, we picked four real-world political figures for Questions 1–4, two of whom were from the same country as that of the novel’s setting and two of whom were from a different country. Within each of these pairs, one figure was better known than the other (as confirmed by a norming experiment described in Appendix B). Table 1 lists these real-world figures for each of the fictional works, with the more famous leader preceding the less famous one within each cell of Columns 2 and 3. None of the real individuals appears in the novels in question, according to text searches. For example, Queen Victoria is not mentioned in *Jane Eyre*. We also conducted a preliminary experiment to ensure that people do not think they appear there (see Appendix C). Thus, the issue is not whether authors can introduce the names of real individuals into novels if they choose. Rather, the question is whether people *assume* real individuals populate a novel’s world simply because of the novel’s time and place.

## Design

The questions varied book type (novel vs. diary), standpoint of the question (could a narrator/diarist appear in the real world versus a real person in the fiction/diary world), fame of the real-world individual (more famous vs. less famous), and location of the real-world individual (same country vs. different country from that of the novel’s setting). All factors varied within-subject. As mentioned earlier, to test the



effects, we fit a generalized linear mixed model, assuming a binomial response function, since the dependent variable is the “yes” or “no” answer to each of Questions 1–4. The model considered both participants and passages as random effects, and standpoint, book type, country, fame, and all interactions of these four factors as fixed effects. Thus, a single omnibus model was fit for the experiment. Statistical analyses for this experiment and the next used the Glimmix program in SAS (Stroup et al., 2018).

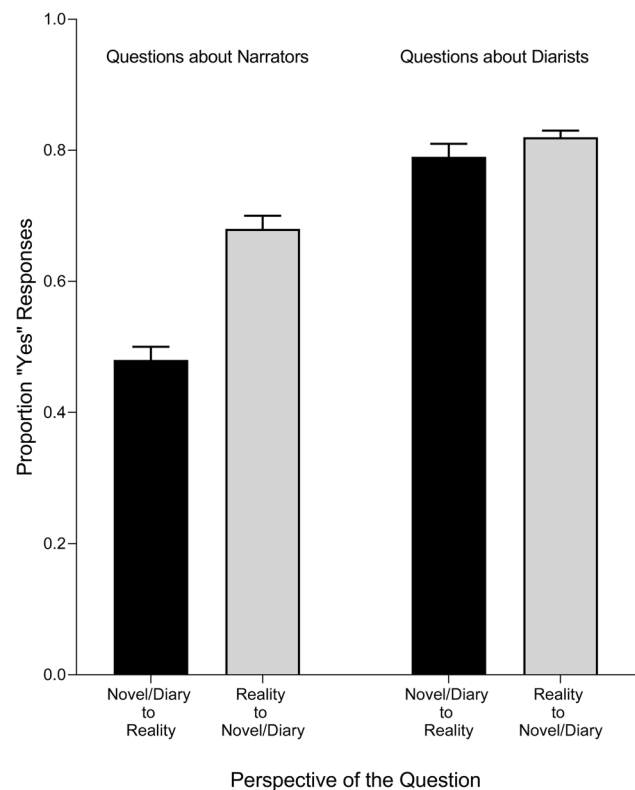
## Results and discussion

This experiment centers on the open-world theory’s standpoint effect in people’s thinking about real people and fictional characters: Participants should believe it more likely that the two would inhabit the same world if they consider the possibility from the character’s standpoint than from the real person’s standpoint. However, this hypothesis is by no means the only idea about the way participants could go about answering questions like these. According to the closed-world theory, fictional characters and unmentioned real people are confined to their own worlds. If so, participants should give negative answers to questions from both standpoints, and should do so at about the same rate.

### Decisions about fiction/reality interchange

As Fig. 2 suggests, participants were more likely to agree that real political figures could be in the world of a novel or diary than that narrators or diarists could be in the real world—the estimate of the standpoint main effect is  $b = 0.907$ ,  $\chi^2(1) = 40.67$ ,  $p < .001$ . This difference was also significant when we consider just the results for narrators from Questions 1 and 2,  $\chi^2(1) = 52.94$ ,  $p < .001$ , by a planned comparison based on the omnibus analysis. The analogous difference for diarists from Questions 3 and 4 was smaller, but still significant,  $\chi^2(1) = 4.83$ ,  $p = .036$ , producing the interaction between type of work (novel vs. diary) and standpoint,  $b = -.857$ ,  $\chi^2(1) = 9.34$ ,  $p = .005$ . Because diary writers are members of the real world and narrators of novels are not, we would expect people to be more willing to think that the diary writers and the real-world figures could coexist in the same world than that the narrators and real-world figures could coexist. Figure 2 also indicates that this is the case,  $b = 2.11$ ,  $\chi^2(1) = 219.19$ ,  $p < .001$ .

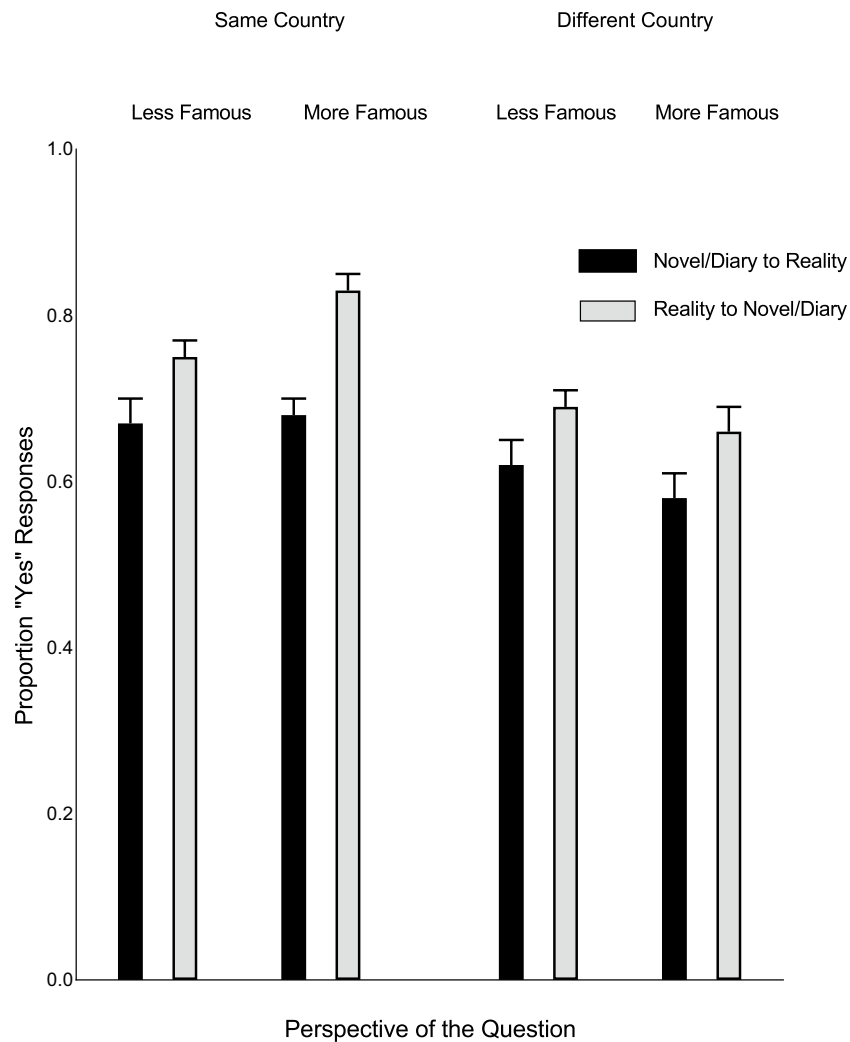
The results of the study also bear on the possibility that political leaders from the same country as a novel’s setting are more likely to be in the world of the narrator than political leaders from a different country. Figure 3 shows that, over all Questions 1–4, “yes” responses were in fact more frequent when the named individuals were from the same country (73%) than when they were from different countries (64%),  $b = 0.361$ ,  $\chi^2(1) = 44.57$ ,  $p < .001$ .



**Fig. 2** Proportion “yes” responses to the questions of whether the narrator of a novel can exist in the world of a political figure or the political figure in the world of the narrator (left-hand bars), and whether a diary writer can exist in the world of a political figure or a political figure in the world of the diary writer (right-hand bars), Experiment 1. Error bars indicate  $\pm 1$  standard error

By contrast, the results exhibited no main effect of the real individuals’ fame. Participants answered “yes” about as often for more famous people (69%) as for less famous ones (68%),  $\chi^2 < 1$ . However, fame did interact with whether the individuals were from the same or different countries,  $b = 0.408$ ,  $\chi^2(1) = 8.80$ ,  $p = .007$ . Figure 3 shows that this effect stems from participants’ judgment that the more famous politicians are more likely to be in the world of a novel or diary than the less famous ones when these politicians belong to the same country as the narrators/diarists. A politician’s fame apparently has little bearing on whether a narrator or diarist can visit the politician’s world, but fame has its privileges for politicians entering the world of a novel or diary that is set in the country they govern. No other effects were significant in the analysis.<sup>2</sup>

<sup>2</sup> We also compared the results from those participants who had read a novel (according to self-report) to those who had not, using a second mixed model. In general, participants gave marginally more “yes” responses for the novels they had read than for the novels they had not,  $\chi^2(1) = 4.09$ ,  $p = .051$ . However, reading had no effect on the size of the interaction in Fig. 2 ( $\chi^2 < 1$  for the triple interaction).



**Fig. 3** Proportion “yes” responses to the questions of whether the narrator of a novel or a diarist can exist in the world of a political figure (reality standpoint) or the political figure in the world of the

narrator/diarist (novel/diary standpoint), Experiment 1. Error bars indicate  $\pm 1$  standard error

### Qualitative responses

As mentioned earlier, we asked participants to explain in their own words why they had answered “yes” to any of the questions about whether a fictional character could exist in the real world. Similarly, we asked them to explain any “yes” answers to the questions about whether a real person could exist in the world of a novel. Two research assistants first independently classified these responses into seven categories that seemed to capture most of the participants’ answers. These categories, along with a sample response from each, appear in Table 2. The judges agreed on 96% of the responses ( $k = 0.65, p < .001$ ), resolving the remaining disagreements through discussion.

Table 2 contains the final counts for each response category and standpoint type. In answering “yes” to the question

about real people appearing in fictional worlds, some participants mentioned the fact that novels presuppose entities from the real world as part of the novels’ background. In addition to the example in Table 2, another participant wrote:

- **S1:** No fictional world is complete within itself, so they all exist as kind of a bubble within the real society in which they are set. That means people like Queen Victoria should exist there, too. (Barring completely made-up worlds, like *Lord of the Rings* or things like that, but none of those were the case here.)

Other participants answered in terms of similarity or temporal overlap between worlds. Most of the remaining informative responses mentioned the realistic properties of the novels. Because the novels were realistic ones, no barrier

**Table 2** Participants' justifications for why the narrator of a novel could appear in the world of a real political figure and why a real political figure could appear in the world of a novel, Experiment 1

Justification type (and example)	Number of justifications	
	Fictional character in real world	Real person in fictional world
Fictional person is realistic <i>I considered how grounded and real the fictional person seemed. If the stories that they were in were grounded and very realistic, I considered it likely that they could easily exist in the world of a real person.</i>	16	15
Fictional and real person are similar <i>They have the same or similar background.</i>	8	6
Fiction presupposes real people and things <i>Famous people, especially world leaders, are in fictional books all the time.</i>	2	10
Fictional people are real abstract or mental entities <i>A fiction person could exist in the mind of the real person.</i>	5	1
Fictional and real person share the same environment <i>[I considered] whether that fictional character's sphere overlapped with that of a real person at the time.</i>	19	17
Guess <i>Just a feeling</i>	4	4
Other <i>[I used] the background of the information provided.</i>	11	13

A few participants said they had never answered “yes” to the relevant questions; nine responses were of this type and are omitted in the table. In a few further cases, a participant’s response fell into more than one of the Table 2 categories and is counted under each of the relevant headings

prevented real people from existing in it. These responses correspond closely to the open-world theory of how people construct representations of fiction. Of course, this experiment asked participants directly about the presence of specific individuals in fictional worlds and leaves open whether participants would volunteer the presence of real individuals if they had to list the worlds’ inhabitants. Appendix D provides evidence that they do.

Participants who answered “yes” to the questions about whether a fictional narrator could exist in the real world tended to appeal to the realistic qualities of the fictional character or to the overlap in their environments. Because the same participants correctly identified the narrators as fictional, these “yes” responses were not the result of confusing these characters with real people. As we suggested earlier, some fictional characters may seem so lifelike that people are willing to assume they are real. This finding also accords with an earlier study of people’s responses to characters in literary texts that found that 68% of readers believed a character in a modern novel “existed” or “maybe existed” (Morra

& Guðbjörnsdóttir, 2009).<sup>3</sup> Similarly, many readers report hearing the voices of characters from fiction (Alderson-Day et al., 2017).

## Experiment 2: Temporal proximity and trans-world travel

Experiment 1 showed that spatial restrictions govern how easily a real person can appear in the framework of a novel. Temporal factors should produce similar effects, perhaps in a more dramatic way. Although Victoria, or even James Polk (the U.S. president), might be included in the representation of *Jane Eyre*, King Charles III seems much less likely to inhabit it. This difference between spatial and temporal constraints follows from ordinary empirical limits on people’s ability to get from one point in space and time to another. Although two contemporaries from distant places on the globe could conceivably meet, two people from distant eras could not do so. Normal bounds on human lifetimes imply that individuals separated by a few hundred years will not encounter one another. We can be confident that neither Victoria nor Polk were in attendance at the coronation of King Charles. Temporal restrictions of this kind, however, may be more flexible when we consider a fictional person and a real one. To find out if this is so, the present experiment varies the distance between the time of a real-world politician and that of a leading character in a novel.

The questions in this study follow the format we used in Experiment 1:

<sup>3</sup> The percentage just cited comes from a content analysis of interviews with 13-year-olds, 17-year-olds, and adults concerning passages that the participants had just read from a contemporary novel (Morra & Guðbjörnsdóttir, 2009). The interview questions focused on the participants’ representation of the main character (e.g., “Do you remember anything that [the character] did?”), and included, “Do you think [the character] actually existed?” The experiment was not intended to investigate whether participants also believed that real people could exist in the world of the novel.



**Table 3** Novels, protagonists, and real-world political figures in Experiment 2

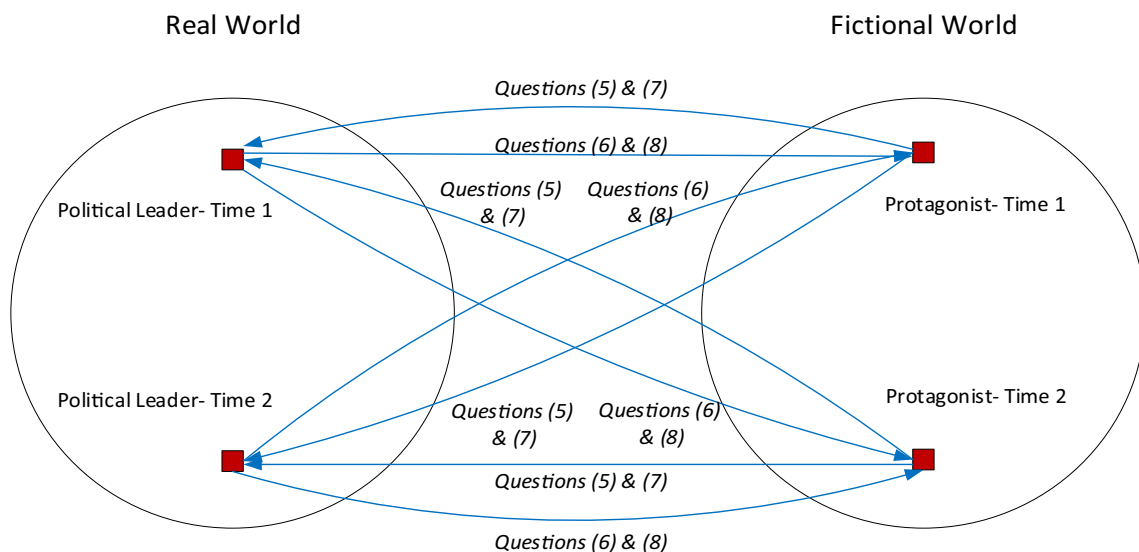
Historical novel (protagonist)	Contemporary novel (protagonist)	Historical figure	Contemporary figure
<i>Gone with the Wind</i> (Scarlett O’Hara)	<i>In Dubious Battle</i> (Jim Nolan)	George McClellan	Cordell Hull
<i>Cold Mountain</i> (W. P. Inman)	<i>The Partner</i> (Patrick Lanigan)	Abraham Lincoln	Bill Clinton
<i>The French Lieutenant’s Woman</i> (Sarah Woodruff)	<i>Travels With My Aunt</i> (Henry Pulling)	William Gladstone	Clement Attlee
<i>Blood Meridian</i> (The Kid)	<i>White Noise</i> (Jack Gladney)	James Polk	George H. Bush

- (5) Consider the world of [an actual political leader]. Would [the novel’s protagonist] also exist in the same world?
- (6) Consider the world of [the novel’s protagonist]. Would [an actual political leader] also exist in the same world?

For example, two of our items are: “Consider the world of George McClellan. Would Scarlett O’Hara also exist in the same world?” and “Consider the world of Scarlett O’Hara. Would George McClellan also exist in the same world?” As participants are told, McClellan was Commanding General of the Union Army from 1861 to 1862, and O’Hara the protagonist of *Gone with the Wind*. However, to vary the temporal distance between the time of the protagonist and the time of the real-world political leader, we pair novels written and published at about the same time, one with a historical setting and the other with a near contemporary setting, relative to the date of publication. *Gone with the Wind*, for example, is paired with *In Dubious Battle*. Although both novels

appeared in 1936, the first is set during the Civil War and Reconstruction, and the second during the Great Depression. Table 3 lists the full set of pairs. For each pair of novels, we chose two political leaders, one for each of the eras in which the books were set, and these also appear in Table 3. For instance, George McClellan was the leader associated with *Gone with the Wind*, and Cordell Hull (the U.S. Secretary of State from 1934 to 1944) the leader associated with *In Dubious Battle*. Combining the two novels and the two political figures with Questions 5 and 6 creates eight types of question for each pair of books. Figure 4 shows the structure of these questions.

This study also allows us to test a further idea. This concerns our wording of the critical questions. All the questions in Experiment 1 used the modal *would* to signal the counterfactual nature of the trans-world appearances (Iatridou, 2000). Although the real and fictional characters never actually appear together, they might. However, participants could interpret the modal in a way that allows for any logically



**Fig. 4** Relation between question types in Experiment 2. Each arrow represents a question of the form: Could the individual at the base of the arrow be in the world of the individual at the head of the arrow? (See text for the exact question wording.)

consistent possibility, inflating the number of “yes” answers. To gauge the effect of this wording, we can compare it to one that emphasizes the actual presence of the individuals in each other’s worlds, as in Questions 7 and 8:

- (7) Consider the world of [an actual political leader]. Is [the novel’s protagonist] in the same world?
- (8) Consider the world of [the novel’s protagonist]. Is [an actual political leader] in the same world?

These new versions substitute *is* for *would* and provide a more direct mode of assessing actual co-presence. If participants interpreted *would* in a liberal way, we would expect fewer “yes” responses to Questions 7–8, which use *is*, than to Questions 5–6, which use *would*.

## Method

### Participants

We recruited 120 participants from Mechanical Turk, all from the U.S, and paid them \$3 for their contribution. This is a larger number of participants than in Experiment 1 because of the between-subject structure of the design. One participant was not a native English speaker and was excluded. As we did in Experiment 1, we excluded trials from pairs of books for which participants had incorrectly answered any of the associated catch questions. This eliminated participants who had incorrectly answered a catch-trial question for each of the four pairs of books in Table 3. In all, 103 participants were retained, with an average age of 35 (range: 23–63); 42 were female. Fifty-two received the *would* wording (i.e., Questions 5 and 6), and 51 the *is* wording (Questions 7 and 8). The responses we analyzed represented 84% of the total possible responses from these participants.

### Procedure

The instructions followed those of Experiment 1, including the cautions about how to interpret “being in the same world” and about focusing on individuals rather than their representations. Participants then received four blocks of trials, one block for each pair of novels in Table 3. At the beginning of a block, participants learned about the two novels, their authors, protagonists, and publication date. The information also included the fact that one of the novels was set many years before the publication date, whereas the other was set near the time of publication. For example, the instructions mentioned that *Gone with the Wind* “was set in 1861–1867, many years before [its publication date]” and that *In Dubious Battle* “was set in the same era that it was published.” Participants also read about two political figures, one said to have been alive at the time of the setting of one of the novels, and the other at the time of the second novel. For

our sample pair, the instructions stated, “During the period in which [*Gone with the Wind*] is set, George McClellan was a prominent American political figure,” and “During the period in which [*In Dubious Battle*] is set, Cordell Hull was a prominent American political figure.” In addition, participants learned that Cordell Hull was Secretary of State of the United States in 1934–1944, and that George McClellan was Commanding General of the Union army in 1861–1862. (None of the novels mentions the real-world figure with which we paired it, according to a text search of the novels.) Participants then proceeded to answer the eight questions associated with the pair of novels (see Fig. 4).

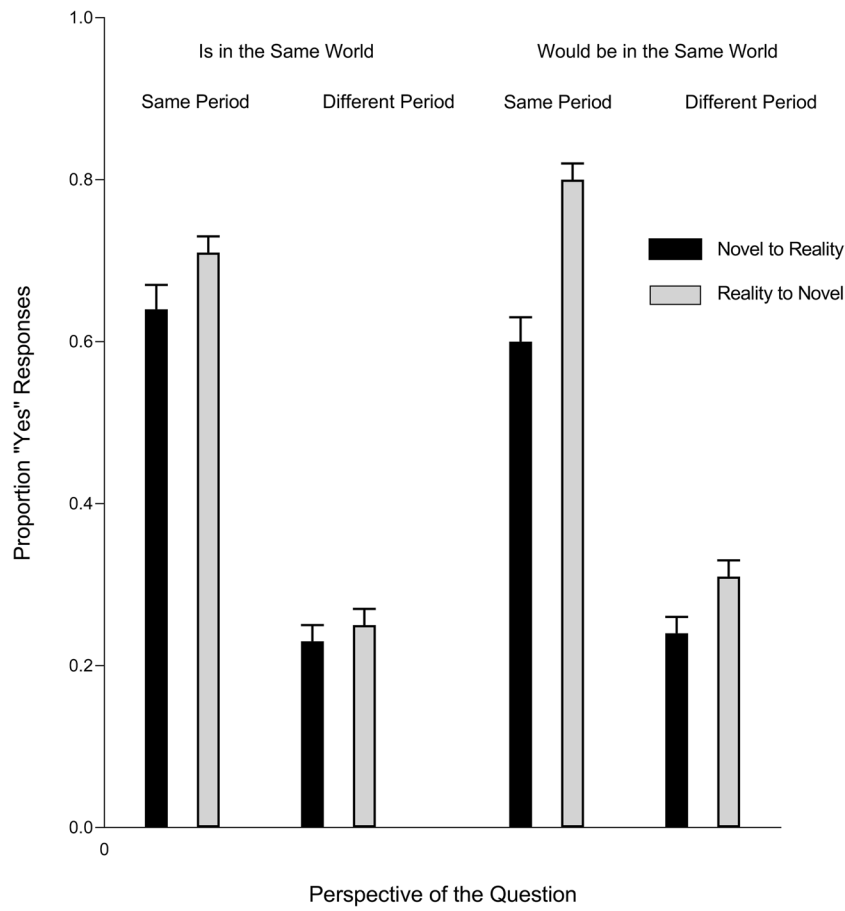
We randomized the order of the blocks and the order of questions within blocks in new randomizations for each participant. As in Experiment 1, catch trials followed at the end of the session and asked participants to decide whether each of the protagonists and political figures was real or fictional.

### Design

The questions varied standpoint (could a fictional person appear in the real world vs. a real person in a fictional world), era of the fictional character (historical vs. contemporary, relative to the date of publication), and era of the real person (historical vs. contemporary, relative to the date of publication). These factors varied within subjects. We also varied question wording (*would* vs. *is*) between subjects. As in Experiment 1, we fit a generalized linear mixed model with a binomial response function. The model considered both participants (within wording conditions) and passages as random effects, and wording, standpoint, same/different eras, and all interactions of these factors as fixed effects. As before, a single model was fit using SAS’s Glimmix.

## Results and discussion

Participants in this study judged it more likely that an actual political figure was in the world of a novel than that a fictional character was in the real world—for the main effect of standpoint,  $b = 0.182$ ,  $\chi^2(1) = 33.34$ ,  $p < .001$ . This standpoint difference appears in Fig. 5 as the difference between the black and grey bars, and it replicates our earlier findings. Figure 5 also shows that the standpoint difference is greater for people of the same era than for those of different eras (for the interaction between standpoint and same vs. different era,  $b = 0.250$ ,  $\chi^2(1) = 6.76$ ,  $p = .009$ ). For example, participants were more apt to think that George McClellan is [would be] in the world of Scarlett O’Hara than that O’Hara is [would be] in the world of McClellan. But this difference was narrower for the questions of whether Cordell Hull is [would be] in O’Hara’s world versus O’Hara in Hull’s. The percentage of “yes” responses for both these latter questions was relatively low.



**Fig. 5** Proportion “yes” responses to the questions of whether the protagonist of a novel can exist in the world of a political figure or the political figure in the world of the protagonist of the same era or a different era, Experiment 2. The left-hand bars represent questions with

the wording “is in the same world,” and the right-hand bars the wording “would exist in the same world.” Error bars indicate  $\pm 1$  standard error

### Same versus different eras

As just noted, compared to the percentages for same-era individuals, “yes” responses are much less frequent for individuals from different eras— $b = 2.270$ ,  $\chi^2(1) = 541.32$ ,  $p < .001$ . Participants judged that a real-world person could appear in a novel from a different era on only 28% of trials, and they judged that a fictional character could appear in the real world of a different era on only 24%. Thus, the participants were sensitive to temporal gaps between the era of the character and of the real-world figure in deciding whether they could co-exist. We consider possible reasons for the residual “yes” answers for the different-era pairs in the General Discussion.

### “Is” versus “Would”

One group of participants in this study decided whether an individual *would* exist in the world of another (Questions 5 and 6). A second group decided whether one individual *is*

in the world of the other (Questions 7 and 8). We assumed that the *would* phrasing is more permissive than the *is* phrasing, because *would* is consistent with a range of counterfactual possibilities. For example, it is reasonable to think that McClellan would be in the world of Scarlett O’Hara, but it is not as clear that he is in that world.

Figure 5 reveals that, although the difference is in the predicted direction, participants did not endorse the *would* questions significantly more often than the *is* questions (the difference is 49% vs. 46% of trials,  $\chi^2 < 1$ ). Nor does the effect of wording interact with whether the individuals are from the same era or different eras ( $\chi^2 < 1$ ). The three-way interaction is also non-significant,  $\chi^2(1) = 1.75$ ,  $p = .186$ . However, the effect of standpoint (real-to-fiction vs. fiction-to-real) is larger for *would* than for *is* (the interaction effect for standpoint and wording is  $b = 0.259$ ,  $\chi^2(1) = 6.96$ ,  $p = .008$ ). Although the standpoint effect is significant for both types of wording (by planned comparisons,  $\chi^2(1) = 5.00$ ,  $p < .025$  for *is* and  $\chi^2(1) = 34.79$ ,  $p < .001$  for *would*), the modal appears to amplify the difference.

Participants judged that a fictional character *is* part of a real political leader's world on 43% of trials, nearly equal to the 42% of trials for the comparable question with *would* (see Fig. 5). This similarity implies that the use of *would* was not the major reason why participants sometimes felt that fictional characters could inhabit the real world. The results are instead more consistent with the remarks of the participants in Experiment 1: A character's realism sometimes prompts the belief that the character exists in the real world.

## General discussion

Fictional characters and real-world people seem to inhabit separate worlds with no interchange between them. According to such a closed-world theory, it should be just as difficult to find a real-world individual in a fictional world as a fictional person in the real world. However, the results of these experiments disconfirm that theory. When told to consider the world of a fictional person and asked whether a real-world person is in it, participants in Experiments 1 and 2 tended to answer "yes," in accord with the open-world approach. This was true even though the novels never mentioned these real individuals. However, when told to consider the world of a real individual and asked whether a fictional individual could appear there, participants were less apt to say "yes." This effect of standpoint depends on the spatial and temporal co-ordinates of the novels. Participants were more likely to think that a real person could be in the world of a character if the two individuals shared the same country (Experiment 1) and the same time (Experiment 2). This is similar to how one might reason about two real-world individuals. However, the standpoint effect did not seem to depend on whether the question appeared hypothetically ("Would the individuals exist in the same world?") or factually ("Are the individuals in the same world?").

### Real entities in fictional worlds

According to the open-world theory, people believe that real individuals should be in a novel's world by default. In agreement with this theory, participants affirmed that Calvin Coolidge (the former U.S. president) would be in the world of Nick Carraway (Experiment 1) and that George McClellan is (or would be) in the world of Scarlett O'Hara (Experiment 2). Being in the world of a character, however, depends in part on the extent of the setting. The smaller the spatial and temporal separation of a character and a real person the greater the chance that the real person will be in the character's world. However, the setting of a novel is typically vague in both its place and time. (Is the setting of *The Great Gatsby* Long Island, the East Coast, or the U.S? Is its time 1922, the Jazz Age, or the early 20th Century?) This vagueness makes

for some uncertainty about whether a real individual is in a character's world. Participants who interpret the fictional setting narrowly will think relatively few real people can inhabit a character's world, whereas participants who interpret the setting broadly will think that almost anyone can inhabit that world. The "yes" responses for different country pairs in Fig. 3 and for different period pairs in Fig. 5 may reflect broad interpretations of the novels' setting.

You could argue, though, that the tendency to think that a real person could be in a fictional world is merely a cognitive illusion. When an individual with a real name appears in fiction, his or her properties often differ from those of the real counterpart. The Houdini in Doctorow's *Ragtime* certainly performs actions the real Houdini never did, and this difference makes distinguishing them plausible. *Ragtime*'s Houdini may be a fictional character. However, the comments of participants from Experiment 1 suggest that not everyone is willing to go along with the idea that the explicit mention of a real individual's name must refer to a fictional individual. For example, one participant wrote, "Fictional stories often have real people existing in their world," and another that "Writers sometimes put real people into their stories."

Moreover, not every difference in properties between a real individual and a fictional counterpart is sufficient to distinguish them. If a character is described as catching a glimpse of President Biden on TV, this attributes to Biden a property that is not true of him (because no fictional character glimpsed him). However, the reference to "Biden" still seems to denote the real-world politician, though it says something false about him. So without a more precise notion of the properties that prevent real-world figures from being part of a novel's world, it seems reasonable to suppose that names of these figures succeed in referring to them (as Currie, 1990; Gallagher, 2011; Kripke, 2011; and Searle, 1975, have argued).

### Fictional entities in the real world

Can fictional people inhabit the real world? In both studies, fewer participants believed that this was possible than believed that real people can be in fictional worlds. Nevertheless, some participants stated that fictional characters like Nick Carraway could be in the same world as a real political figure. These participants were aware that the characters were fictional, because they correctly answered the catch-trial items that asked about their fictional status. Furthermore, participants did not seem to be using an overly general interpretation of "would be." The proportion of "yes" responses was about the same when we asked whether a character "is" in the real-world as when we asked whether a character "would be" in the real-world. The responses were also not due to uncertainties about "fictional worlds," because the questions at issue concern the real world (e.g.,

“Consider the world of Calvin Coolidge. Would Nick Carraway also exist in the same world?”).

The participants’ comments in Experiment 1 suggest that they were often responding to realism in deciding that a character could be in the real world. This agrees with the attested use of “in the same world” to describe the result of qualities that make fictional characters seem similar to us. For example, an obituary of the cartoonist Stan Lee states, “Lee’s superheroes lived in the same world as the rest of us, complete with all its social ills, and their foibles made it that much easier for fans to connect to them” (Rottenberg & Faughnder, 2018). Here, “lived in the same world” suggests that characters like Spiderman have the realistic human qualities we expect to find in everyday interactions. A recent review of a novel states, in a similar vein, “As in any work of fiction, we take what’s on the page to be real, whether or not it’s factual” (Gates, 2022, paragraph 2 of the review). This tendency may sometimes get us into trouble, as when people take inaccurate information from fiction and later report it as fact (e.g., Fazio et al., 2015; Gerrig & Prentice, 1991).

### Standpoints on fictional worlds

People believe the world of a novel is more likely to support real individuals than reality to support fictional ones. In answering a question from the novel’s standpoint, we imagine what it would be like to be in this situation—and we consider how probable it would be that a real entity could exist in it. For example, given the circumstances of the Holmes stories, how likely is it that Queen Victoria could appear there? To answer questions like these, we imagine ourselves as observers of these circumstances—that is, we imagine what it would be like to be in this situation—and we consider how probable it would be that Victoria could turn up there. This likelihood will be higher the closer the real person is to the situation in question, where closeness is a function of spatial, temporal, and causal factors, as the experiments here suggest. In other words, once we have occupied the position of an inside observer of the novel’s action, we decide which real individuals could be there in much the same way we do in deciding which individuals could be in our actual situation.

When answering a question from the standpoint of reality, however, people ask how likely the occurrence would be, given the real setting implied by the question. Given the circumstances of Queen Victoria’s reign, how likely is it that Sherlock Holmes could appear in them? The effect of standpoint is then a reasonable response to the difference between these counterfactual conditional questions, and in this sense, the asymmetry in participants’ answers that appears in Figs. 2, 3, and 5 is like the asymmetry of probability estimates for other conditional questions and their

converses. The likelihood of having drawn an ace, given that you have drawn a diamond, is smaller than the likelihood of having drawn a diamond, given that you have drawn an ace.

In thinking about a novel, then, readers infer its intended setting from clues about the time and place of its events. Facts about this setting and its antecedents that are consistent with the text of the novel are the source of potential probabilistic inferences. Some of these inferences provide for the existence of people and other things, ones that readers are then willing to say exist in the world of the novel. Our experiments abbreviated this inferential chain by simply telling participants about real people or places that either did or did not exist in the country and era of the novel. Under these conditions, participants were willing to say that people and places of the same country and era exist in the novel’s world. Participants are less likely to think that people and places of fiction exist in the real world. Those who do are probably influenced by the characters’ realism rather than by confusion over the characters’ fictional status or over the wording of our questions. The resulting asymmetry—easier access from the real to the fictional world than from the fictional to the real world—provides a glimpse of the resources on which authors can draw in crafting imaginative works and of the strategies that readers can use in understanding them.

## Appendix A

### Stimulus passages from the novels and story collections of Experiment 1

*Jane Eyre:*

My head still ached and bled with the blow and fall I had received: no one had reproved John for wantonly striking me; and because I had turned against him to avert farther irrational violence, I was loaded with general opprobrium. “Unjust!—unjust!” said my reason, forced by the agonizing stimulus into precocious though transitory power: and Resolve, equally wrought up, instigated some strange expedient to achieve escape from insupportable oppression--as running away, or, if that could not be effected, never eating or drinking more, and letting myself die. What a consternation of soul was mine that dreary afternoon! How all my brain was in tumult, and all my heart in insurrection! Yet in what darkness, what dense ignorance, was the mental battle fought! I could not answer the ceaseless inward question—WHY I thus suffered; now, at the distance of—I will not say how many years, I see it clearly.

*The Adventures of Sherlock Holmes:*

From outside came the occasional cry of a night-bird, and once at our very window a long drawn catlike whine, which told us that the cheetah was indeed at liberty. Far away we



could hear the deep tones of the parish clock, which boomed out every quarter of an hour. How long they seemed, those quarters! Twelve struck, and one and two and three, and still we sat waiting silently for whatever might befall.

Suddenly there was the momentary gleam of a light up in the direction of the ventilator, which vanished immediately, but was succeeded by a strong smell of burning oil and heated metal. Someone in the next room had lit a dark-lantern. I heard a gentle sound of movement, and then all was silent once more, though the smell grew stronger. For half an hour I sat with straining ears. Then suddenly another sound became audible—a very gentle, soothing sound, like that of a small jet of steam escaping continually from a kettle.

*The Great Gatsby:*

The practical thing was to find rooms in the city, but it was a warm season, and I had just left a country of wide lawns and friendly trees, so when a young man at the office suggested that we take a house together in a commuting town, it sounded like a great idea. He found the house, a weather-beaten cardboard bungalow at eighty a month, but at the last minute the firm ordered him to Washington, and I went out to the country alone. I had a dog—at least I had him for a few days until he ran away—and an old Dodge and a Finnish woman, who made my bed and cooked breakfast and muttered Finnish wisdom to herself over the electric stove.

It was lonely for a day or so until one morning some man, more recently arrived than I, stopped me on the road.

*Breakfast at Tiffany's:*

I am always drawn back to places where I have lived, the houses and their neighborhoods. For instance, there is a brownstone in the East Seventies where, during the early years of the war, I had my first New York apartment. It was one room crowded with attic furniture, a sofa and fat chairs upholstered in that itchy, particular red velvet that one associates with hot days on a tram. The walls were stucco, and a color rather like tobacco-spit. Everywhere, in the bathroom too, there were prints of Roman ruins freckled brown with age. The single window looked out on a fire escape. Even so, my spirits heightened whenever I felt in my pocket the key to this apartment; with all its gloom, it still was a place of my own, the first, and my books were there, and jars of pencils to sharpen, everything I needed, so I felt, to become the writer I wanted to be.

## Appendix B

### Norming experiment: Fame

To confirm our judgments of which individuals in Experiment 1 were more famous, we conducted a norming study. Thirty-one Mechanical Turk participants rated the fame of

each real-world political leader from Table 1, on a scale from 1 (“least famous”) to 7 (“most famous”). Those we designated more famous received a mean rating of 3.99, and those we designated less famous a mean rating of 1.75,  $F(1, 30) = 307.72, p < .001, \eta_p^2 = .91$ . The names of the more and less famous political leaders appear in Table 1, with the more famous leader preceding the less famous one within each cell of Columns 2 and 3.

## Appendix C

### Norming experiment: Explicit mentions

The goal of Experiment 1 is to see whether people believe that real individuals can appear in the world of a novel, even if the novel never mentions them. We therefore picked real political figures whose names (see Table 1) do not appear in the novels, according to text searches. However, to make sure that people do not *think* the novels named these figures, we conducted a norming study. For each novel, we used the names of eight people—the four actual political leaders from Table 1 and four characters from the novel. For example, the characters from *Jane Eyre* were Edward Rochester, Bertha Mason, Helen Burns, and Adèle Varens. On each trial of the norming experiment, participants saw the eight names associated with a novel in a randomized list, and we asked the participants to rate each name according to how likely it is that the name appeared in the novel. The participants made their response by clicking a button along a scale labeled “very unlikely,” “unlikely,” “somewhat unlikely,” “somewhat likely,” “likely,” and “very likely.” We encoded these responses for analysis as numbers from 1 (“very unlikely”) to 6 (“very likely”). Each participant saw four trials in random order, each trial corresponding to one of the four novels.

Fifty Mechanical Turk participants took part in the study. The mean rating for the real people was 2.84 (between “unlikely” and “somewhat unlikely”) and for the characters 4.21 (between “somewhat likely” and “likely”),  $F(1, 49) = 70.08, p < .001, \eta_p^2 = .59$ . The purpose of this norming experiment was to see if participants who are similar to those of Experiment 1 could reliably distinguish the real political figures from the fictional characters. We therefore recruited participants for the norming experiment in the same way as in Experiment 1. These data therefore include participants who had not read some of the works. However, the results are similar if we omit data from participants who hadn’t read the relevant book. Mean ratings from the remaining participants were 2.56 for real people and 4.52 for fictional ones,  $F(1, 49) = 60.41, p < .001, \eta_p^2 = .55$ .

## Appendix D

### Attribution of people and place

Experiment 1 asked participants whether fictional worlds could contain particular people, but this leaves uncertain how people construct these worlds on their own. Do people also populate fictional worlds with real individuals when they are under no constraints to do so? To find out about this, we conducted a follow-up study with a new group of participants, using the same novels and passages that appeared in Experiment 1. This time, however, we asked participants to “Please imagine that you are an observer of the action that takes place in the book. You exist along with the characters and have access to all the information that a normal person in that world would have. We would like you to ask yourself what people and places you would be able to know about as an individual in that world.” The instructions also told participants to “Please describe a specific individual, not just a type of person or place.”

For each novel, participants read the same information about the novel (author, publication date, and the name of the narrator) that we had used in Experiment 1, but we omitted information about the real-world political figures. They also read the appropriate passage from the novel (the one in Appendix A). We then asked the participant to consider the world of the novel and to write the description of four people and four places from that world. Participants typed this information in text boxes. The order of the novels was randomized anew for each participant. After entering their descriptions for all four novels, participants then saw each of their own descriptions, and they indicated whether the description was of a fictional or a real individual by clicking on a radio button. The study balanced whether participants first produced descriptions of people or descriptions of places, and the order of the response choices (“fictional” or “real”). Forty Mechanical Turk workers took part in the study.

In examining the results, we first eliminated any cases in which a participant repeated a person or place for a given novel, uninformative or irrelevant responses, responses taken directly from the passage or from the description of the novel (e.g., “the parish clock”), responses that consisted of just a single word (e.g., “house”), responses that were not of people or places (e.g., “easy-going”), and cases in which a participant listed a person when asked for a place or a place when asked for a person. After this filtering, 699 responses remained.

The central point of interest is whether the participants included real people or places among these descriptions. In fact, they did. Of the total number of descriptions, 35% were real, according to the participants’ judgments at

the end of the study. In the case of places, the real items were often well-known landmarks (e.g., “the grounds of Buckingham Palace”) or more ordinary places that could plausibly exist in the novels’ setting (e.g., “a dark foggy alleyway” and “the local hospital”). Similarly, real people included famous individuals from the same period (e.g., “Charles Dickens”) or more generic individuals that the participant could infer would exist in the same setting (e.g., “a shoe cobbler”). Fictional people or places were typically more specific individuals that the author might have included in the novel (e.g., “Mike Wiley, the bartender at Walsh Street pub”).

These results confirm the open-world theory’s claim that when people contemplate the world of a novel, they are willing to include in their representations individuals they regard as real. Participants believe that real people and places have a position in fictional worlds, even when these individuals are not specifically identified and even when there are no experimental demands to include them. This provides reassurance that the results of the main experiment are not an artifact of our means of eliciting responses.

**Acknowledgments** This work was supported by the U.S. Department of Education, Institute of Education Sciences, Multidisciplinary Program in Education Sciences, Grant Award # R305B140042.

**Open Practices Statement** The data from these experiments are available on the Open Science web site:

[https://osf.io/bkgjn/?view\\_only=2eade422b8014de681fa28dba00051f4](https://osf.io/bkgjn/?view_only=2eade422b8014de681fa28dba00051f4)

Neither experiment was preregistered.

## References

- Adams, J.-K. (1985). *Pragmatics and fiction*. John Benjamins.
- Alderson-Day, B., Bernini, M., & Fernyhough, C. (2017). Uncharted features and dynamics of reading: Voices, characters, and crossing of experiences. *Consciousness and Cognition*, 49, 98–109.
- Bindrim v. Mitchell, 92 Cal. App. 3d 61, 155 Cal. Rptr. 29, 1979 Cal. App. LEXIS 1655, 5 Media L. Rep. 1113 (Court of Appeal of California, Second Appellate District, Division Four April 18, 1979). <https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S11-T5T0-003C-R128-00000-00&context=1516831>
- Brunyé, T. T., Ditman, T., Mahoney, C. R., Augustyn, J. S., & Taylor, H. A. (2009). When you and I share perspectives: Pronouns modulate perspective taking during narrative comprehension. *Psychological Science*, 20(1), 27–32.
- Currie, G. (1990). *The nature of fiction*. Cambridge University Press.
- De Ponte, M., Korta, K., & Perry, J. (2020). Truth without reference: The use of fictional names. *Topoi*, 39(2), 389–399.
- Doležel, L. (1989). Possible worlds and literary fictions. In S. Allén (Ed.), *Possible worlds in humanities, arts, and sciences* (pp. 221–242). De Gruyter.
- Fazio, L. K., Dolan, P. O., & Marsh, E. J. (2015). Learning misinformation from fictional sources: Understanding the contributions of transportation and item-specific processing. *Memory*, 23(2), 167–177.
- Fetler v. Houghton Mifflin Co., 364 F.2d 650, 1966 U.S. App. LEXIS 5172 (United States Court of Appeals for the Second Circuit

- August 15, 1966, Decided). <https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:3S4W-Y470-0039-Y3CB-00000-00&context=1516831>
- Frege, G. (1979). Logic. In H. Hermes, F. Kambartel, & F. Kaulbach (Eds.), *Posthumous writings* (pp. 126–151). Blackwell (Original work published 1897).
- Friend, S. (2017). The real foundation of fictional worlds. *Australasian Journal of Philosophy*, 95, 29–42.
- Gallagher, C. (2011). What would Napoleon do? Historical, fictional, and counterfactual characters. *New Literary History*, 42, 315–336.
- Gates, D. (2022). A pox on their houses [Review of the book *Nights of Plague*, by O. Pamuk]. *The New York Times*. <https://www.nytimes.com/2022/09/30/books/review/nights-of-plague-orhan-pamuk.html>
- Gerrig, R. J., & Prentice, D. A. (1991). The representation of fictional information. *Psychological Science*, 2(5), 336–340.
- Iatridou, S. (2000). The grammatical ingredients of counterfactuality. *Linguistic Inquiry*, 31, 231–270.
- Kripke, S. A. (2011). Vacuous names and fictional entities. In S. A. Kripke (Ed.), *Philosophical troubles* (pp. 52–74). Oxford University Press.
- Lamarque, P., & Olsen, S. H. (1994). *Truth, fiction, and literature*. Oxford University Press.
- Morra, S., & Guðbjörnsdóttir, G. (2009). Mental representation of literary characters as a distinct aspect of response to literature. *Scandinavian Journal of Educational Research*, 53(6), 591–615.
- Motoarca, I.-R. (2014). Fictional surrogates. *Philosophia*, 42(4), 1033–1053.
- Radvansky, G. A., & Zacks, J. M. (2014). *Event cognition*. Oxford University Press.
- Rottenberg, J., & Faughnder, R. (2018). Three ways Stan Lee helped create the modern superhero movie. *The Los Angeles Times*. <https://www.latimes.com/entertainment/movies/la-et-mn-3-ways-stan-lee-changed-superheroes-20181113-story.html>
- Ryan, M.-L. (1980). Fiction, non-factuals, and the principle of minimal departure. *Poetics*, 9, 403–422.
- Salomon, M., & Rips, L. J. (2016). Permeability of fictional worlds. In A. Papafragou, D. Grodner, D. Mirman, & J. C. Trueswell (Eds.), *Proceedings of the 38th Annual Conference of the Cognitive Science Society* (pp. 2111–2117). Cognitive Science Society.
- Searle, J. R. (1975). The logical status of fictional discourse. *New Literary History*, 6, 319–332.
- Stroup, W. W., Milliken, G. A., Claassen, E. A., & Wolfinger, R. D. (2018). *SAS for mixed models*. SAS Institute.
- Voltolini, A. (2013). Probably the Charterhouse of Parma does not exist, possibly not even *that* Parma. *Humana Menta*, 25, 235–261.
- Zwaan, R. A. (2016). Situation models, mental simulations, and abstract concepts in discourse comprehension. *Psychonomic Bulletin & Review*, 23(4), 1028–1034.

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