Synthese (2022) 200:436
https://doi.org/10.1007/s11229-022-03935-0

ORIGINAL RESEARCH

Truth in interactive fiction

Alex Fisher[1]

Received: 4 May 2022 / Accepted: 12 October 2022 / Published online: 21 October 2022

Abstract
This paper provides an account of truth in interactive fiction. Interactive fiction allows the audience to make choices, resulting in many different possible fictions within each interactive fiction, unlike in literary fiction where there is just one. Adequately capturing this feature of interactive fiction requires us to address familiar issues regarding impossible fiction and the nature of time in fiction. Truth in interactive fiction thus requires a complex account to capture its multitude of fictions. It is argued that a full account of truth in interactive fiction requires distinguishing two works for each interactive fiction, which contain distinct fictional truths. The actual work encompasses what is in fact represented as fictional (hence mistakes can be fictionally true in this work), whilst in the implied work, truth in fiction is governed by authorial intention, hence mistakes are not fictionally true. This dual account best captures our aesthetic evaluation of interactive fictions, for which we often need to distinguish how the work actually is from how it was intended to be.

Keywords Truth in fiction · Time in fiction · Interactive fiction · Videogames · Authorial intention

1 Truth in interactive fiction

Most fictions we come across, such as the conventional novel, do not allow us any influence over what is fictionally true—they are non-interactive. My edition of *A Study in Scarlet* may be dog-eared and coffee-stained, but it is in no way different to

✉ Alex Fisher
atbf2@cam.ac.uk

[1] Robinson College, Cambridge CB3 9AN, UK

your pristine copy in terms of what is fictionally true.[1] We might interpret the novel differently, but we do not *influence* what is fictionally true in it.

Interactive fictions, on the other hand, allow for many different propositions to be fictionally true depending on the audience's choices, hence what is fictionally true in my interactive fiction can differ from what is fictionally true in yours. In contrast to non-interactive fiction, which is linear, interactive fiction exhibits a *branching* structure, with the narrative forking in different directions depending on the audience's choices. As such, I can encounter one branch, and you another.

An account of truth in interactive fiction must explain in more detail the nature of this branching structure, and how it can capture the kinds of claims we wish to make about what is fictionally true in interactive fictions. This paper provides such an account.

In Sect. 2, I outline a recent distinction between what is true in a branch of an interactive fiction (branch-true) and what is true in the work as a whole (work-true). I argue in Sect. 3 that the way this distinction has been made cannot adequately capture truths about future fictional events. I then illustrate how we can do so by modifying which branches we take to be relevant to determining whether a proposition is work-true or only branch-true.

In Sect. 4, I address a further problem with this existing account of work-truths and branch-truths—it miscategorises many apparent work-truths as branch-truths due to mistakes generating fictional content in interactive fiction. In Sect. 5, I display how this problem can be avoided by distinguishing the *actual* work—the work as it is, including mistakes—from the *implied* work—the work as intended by its creator. Neither of these works individually encapsulates the full fictional content of an interactive fiction, hence the appeal of a dual account which distinguishes the fictional content of each. Finally, in Sect. 6, I illustrate how this distinction between actual and implied work can be further utilised to capture our evaluation of other artworks where authorial intention diverges from the actual work produced.

2 Work-truths and branch-truths

Audience choice gives interactive fiction a branching structure, like that of a probability tree, where at each choice the narrative branches in different directions. We can identify a playthrough or "branch" of an interactive fiction as picking out just one of these many possible paths from start to finish.[2]

[1] Some unorthodox views such as Roman Ingarden's (1973, ch. 13) hold that a work can represent various sets of fictional truths to different readers. Kendall Walton (1990, p. 59) holds a similar view of what is fictionally true in audience members' "game-worlds". Whilst the "work-world" is the same for everyone, there are different fictional truths in each person's game-world, which captures what *they* imagine when engaging with the work. In the case of interactive fiction, in my game-world there will be fictional truths about *me*, whilst in yours there will be different truths about *you*, as we each project ourselves into the fictional world as our character. The account of truth in interactive fiction in this paper applies only to the work-world.

[2] One might instead think of interactive fictions as possessing loops, rather than branches. One can choose A or B, but either way one eventually ends up at a certain fixed point—the same page in a *Choose Your Own Adventure* novel, or level in a videogame. However, whilst this captures the "gameplay" of the interactive

Marissa Willis (2019, p. 46) has recently argued that for videogames, both the work itself as a whole and its individual branches can bear fictional content.[3] Some fictional truths, for instance *that Geralt is a Witcher*, are true in the work of *The Witcher III*, whereas others, for instance *that Geralt lives happily ever after*, are only true in some branches where certain choices are made since there are a range of different endings, some of which are not so happy for Geralt.

Willis's distinction of videogames' fictional content into work-truths and branch-truths is analogous to possible-worlds analyses of the modal notions necessity and contingency:

It is work-true that *p* iff *p* is true in all branches of the work.
It is branch-true that *p* iff *p* is true in some but not all branches of the work.

This relativises some fictional truths to branches ("branch-truths"), while other fictional truths ("work-truths") are true more generally in the work.[4] I shall extend this idea to interactive fiction more generally, employing this distinction between work-truths and branch-truths to capture fictional truth in a range of media, including videogames, interactive films, role-playing games, board games, and *Choose Your Own Adventure* novels.

The distinction between work-truths and branch-truths is appealing for a number of reasons. First, the work-truth/branch-truth distinction captures an intuitive contrast between the fixed elements of an interactive fiction and those up to the audience. When we discuss the main narrative of a videogame, for instance, we tend to be interested in work-truths—the story tends to be a fixed set of propositions true in all branches. Yet we can also talk about what is fictionally true only in some branches, depending on what the audience chooses.

This is a useful distinction for aesthetically evaluating interactive fictions. Whether a proposition is a fixed work-truth or whether the audience only makes it true in some branches (it is branch-true) can be used to afford particular aesthetic experiences to the audience—a sense of helplessness and inevitability in the former case, and power in the latter.

The distinction is also useful in evaluating the ethics of virtual actions. If you cannot proceed in an interactive fiction without performing a morally abhorrent action (i.e. it is work-true), such as the infamous torture sequence in *Grand Theft Auto: V*, we tend to assign any moral blame to the creator rather than the player. If the player *can* proceed without performing this action, as it is only branch-true, but they choose to do so anyway, we may well hold the player to be more morally responsible (Bartel, 2015, 2020, pp. 145–151).

Footnote 2 continued
fiction—what the player is doing at a certain point—seeing interactive fictions as loops ignores differences in fictional content. Two players may arrive at the same point of an interactive fiction by alternate means; they are at the same point in terms of gameplay, but we need to appeal to branches to capture how their individual playthroughs differ in their fictional content.

[3] Similar suggestions are offered by Tavinor (2009, pp. 118–119), Meskin and Robson (2012, p. 214), and Declos (2020, Sect. 2.2).

[4] Willis calls the former "playthrough truths"; I use "branch-truths" since "playthrough" as it is ordinarily used is too coarse-grained—we might ordinarily describe two very slightly different branches as constituting the same playthrough.

Second, the work-truth/branch-truth distinction seems to be required to make sense of the way we evaluate interactive fictions. We often talk about what is true in an interactive fiction as a whole, separately from its individual branches.[5] I might describe the story of a videogame as being a certain way, speaking about the work as a whole. Yet we also sometimes want to talk about what is true in individual branches. Many interactive fictions have notable groups of branches, for instance various branches corresponding to a "hero" storyline and a "villain" storyline. We might say that the hero storyline is well-executed, but the villain storyline is poorly-paced and the ending does not fully resolve the narrative. Here, we attribute fictional content to individual (sets of) branches independently of the work as a whole. Similarly, when we view a speedrun of a videogame—an attempt to finish the game is as little time as possible—we can be equally concerned with things that are true in the work as a whole (work-truths) and with what is the case only in the specific run we watch (branch-truths). Thus, we already often employ the distinction between what is true in the work and what is only true in a branch.

A third and final motivation for the work-truth/branch-truth distinction is that by relativising certain fictional truths to branches, we avoid the unhappy consequence of all interactive fiction being rendered impossible fiction. Proponents of possible worlds analyses of fiction argue that truth in fiction ultimately reduces to truth at a particular possible world (Lewis, 1978). Such analyses face problems with impossible fiction, however, which is not true at any possible world. One solution is to hold that an apparently impossible fiction, such as a fiction involving a contradiction, involves multiple "fragments". When it appears to be fictionally true that p and that $\neg p$, we can explain this away by distinguishing two *fragments* of the fiction, where in one it is true that p and in the other that $\neg p$. Hence, each fragment can be captured by a possible world, and the problem of impossible fiction is avoided by *relativising* certain truths to fragments.[6]

Interactive fiction encounters the same problem as that facing possible worlds analyses of fiction, whereby all interactive fiction might seem to constitute impossible fiction. Yet a similar solution to that above is available again. The interactivity of interactive fiction consists in the ability to make it fictionally true that p, or that $\neg p$ (Wildman & Woodward, 2018). If we consider an interactive fiction's truths as a single set present in all instances of the work, then it will be fictionally true in the work that p and that $\neg p$. Since interactive fictions typically do not indicate that we should abandon conjunction introduction, *all* interactive fiction involves contradictions that $p \wedge \neg p$, and is consequently impossible fiction. This unwanted conclusion is avoided by relativising fictional truths to branches, just as we saw the possible worlds theorist suggest above with fragments: p is true in one branch, $\neg p$ is true in another, but in

[5] Robson (2018), for instance, offers an analysis of videogame performances which depends on a distinction between the work and its branches.

[6] See, for instance, Lewis (1978, p. 46; 1983, p. 277), Hanley (2004, p. 127), and Bourne and Caddick Bourne (2013, pp. 93–94; 2016, ch. 12; 2018, p. 179). Graham Priest (1997, p. 580) objects that this suggestion fails to accommodate *all* impossible fiction, particularly those in which impossibility plays a central role in the story. Priest's objection, however, does not apply to the relativisation of fictional truths to branches in interactive fiction, as here there is no appearance of contradictory propositions being true *at the same time*.

no branch is it true that $p \wedge \neg p$. Hence, interactive fiction is not rendered impossible fiction *by default*.

One might object that in interactive fiction, contradictions *are* often true in an individual branch. I can perform an action, making it true that p; I can then reload an earlier savegame or turn back a few pages and choose a different action, making it true that $\neg p$. Thus, we can conjoin these to give $p \wedge \neg p$. In such a case, however, fictional content is *overwritten*, hence the contradiction is not *really* fictionally true. When we reload our previous savegame or turn back the page to choose differently, we take back all subsequent fictional content.[7] Therefore, when we make it fictionally true that $\neg p$, we are now engaging with a different branch to before, in which it is not fictionally true that p, hence the contradiction is avoided.

The above three reasons together motivate the distinction between what is true in the work as a whole, and what is only true in a branch. Let us now turn to a problem for these two categories of work-truths and branch-truths, which arises regarding fictional truths about future events.

3 Fictional truths about future events

The work-truth/branch-truth distinction faces problems with propositions about future events. Here, familiar issues of future contingents and necessities arise for this fictional domain, regarding how we should assign truth-values to these propositions.

We might be tempted to regard propositions describing fictional events as neither true nor false, before *becoming* true when the audience makes a choice. Nathan Wildman and Richard Woodward (2018, pp. 122–125), for instance, rely on this idea in their account of interactivity as incompleteness the audience must resolve: it is initially neither fictionally true that p nor that $\neg p$, yet the audience *makes* one of these propositions fictionally true through their choices.

The above account of work-truths as true in all possible branches, however, in conjunction with the view that propositions about the fictional future are neither true nor false, has the unhappy consequence that propositions describing events during an interactive fiction cannot be work-true—they are all branch-true. This is because an incomplete branch, in which the audience stops engaging with the work before reaching the end, constitutes a branch in which a proposition describing a later event is not true, since the event has not yet occurred. Thus, this proposition is not true in *all* branches, and is not work-true.

For instance, in *The Witcher III*, the player is given various choices, but in every complete branch the protagonist Geralt ends up reaching Novigrad. If we take propositions about future fictional events as neither true nor false, then in a branch in which the

[7] Occasionally, reloading does not take back all fictional content. In *Undertale*, some aspects of overwritten savegames retain their fictional truth: characters "remember" what happened to them in previous savegames. Similarly, in many run-based videogames such as *Hades*, when you die it remains fictionally true that you died, with the fictional world keeping track of your previous runs. Other games such as *Prince of Persia: The Sands of Time* and *Life is Strange* allow the player to rewind time and undo fictional content. Unlike reloading a save, here it is fictionally true that events were undone.

player gives up playing after five minutes, it is not true *that Geralt reaches Novigrad*, therefore it is not work-true, since it is not true in *all* branches.

This consequence that propositions about events cannot be work-true conflicts with the motivation for the work-truth/branch-truth distinction. We want to describe some propositions about events as work-truths when they are fixed aspects of an interactive fiction which occur no matter what the audience does, yet we cannot if we regard such propositions as initially neither true nor false.

In this section, I show how we can maintain both the account of work-truths as true in all branches *and* the view that propositions about the fictional future are neither true nor false, by rejecting that incomplete branches feature in our domain of branches determining what is work-true. Before I reach this solution, however, I shall first consider and reject two alternatives—first, a slight modification of the account of work-truths, and second, an alternative view of the truth-value of propositions about fictional future events.

3.1 Work-truths as never-contradicted

The first way of avoiding the above problem of propositions about events only being branch-true is to modify the account of work-truths and branch-truths. Willis herself provides another supposedly identical account of work-truths as those true in at least one possible branch and never contradicted in any other possible branch (2019, p. 47).

This never-contradicted account, however, is only equivalent to the initial suggestion (that work-truths are true in all possible branches) on the assumption of fictional bivalence. If propositions can be neither fictionally true nor fictionally false (for instance *Sherlock Holmes has an even number of freckles*) then the two suggestions come apart.[8] On the initial suggestion, a proposition must be *true in all possible branches* to be work-true, whereas on the alternative never-contradicted account a proposition can be work-true by being true in one branch and merely *not being false* in all other branches (in all branches it must be true, *or* be neither true nor false).

The never-contradicted account, however, looks to be rather promising in its own right—it would seem to evade our problem of propositions about future events being unable to be work-true. Propositions describing events which will occur later in the interactive fiction are not *true* in incomplete branches, but they are not *false* either. Therefore, propositions such as *that Geralt reaches Novigrad* are not contradicted by any of these incomplete branches. If we adopt this account of work-truths as never-contradicted in any branch, then since propositions describing events which have not yet occurred are neither true nor false, they *can* be work-true as they are never contradicted, avoiding our initial problem.

This alternative account of work-truths as never-contradicted, however, faces a different problem with *impossible* interactive fictions. In motivating the work-truth/branch-truth distinction, I argued that not *all* interactive fiction is impossible

[8] Most accounts of truth in fiction, for instance the Waltonian view Willis prefers, reject fictional bivalence—one can be neither prescribed to imagine *that p* nor *that* $\neg p$. One account of truth in fiction that does accept fictional bivalence is the possibilist account, for truth in fiction is truth at a possible world, and possible worlds are complete, hence it is always either true *that p* or *that* $\neg p$. Consequently, possibilists will hold that the two suggestions remain identical.

fiction. But interactive fiction clearly *can* be impossible—an interactive fiction could have a contradiction of $p \wedge \neg p$ true in all branches. On Willis's initial suggestion that work-truths are true in all branches, it is work-true *that p*, and *that* $\neg p$. Yet on the revised suggestion that work-truths are never contradicted in any possible branch, neither the proposition *that p*, nor the proposition *that* $\neg p$, are work-true since each is contradicted in *every* possible branch.

Work-truths are meant to correspond to the fixed aspects of interactive fictions, yet here we have fixed aspects which are not work-true. Therefore, whilst this alternative never-contradicted account of work-truths deals well with propositions about future events, by stating they are neither true nor false, it produces other incorrect results for impossible interactive fictions.

3.2 Fictional future propositions as inevitabilities

Incomplete branches seem to render propositions about future fictional events as merely branch-true. To avoid this problem, we might simply abandon the view that all propositions about future fictional events are neither true nor false. We can regard some of these propositions are determinately true (or determinately false), depending on whether the event described will occur no matter what I do. Whilst it is controversial to take future contingents as true before the events they describe occur, we *can* do so for propositions about future necessities. We can argue whether it is true now *that it will rain tomorrow*, but it is less controversial that it is true now *that either it will rain or it will not rain tomorrow*.

The present suggestion is that we similarly take certain fictional events to be inevitable in that if I *were* to continue, they would occur no matter what I did. Consequently, propositions describing events in interactive fiction can be true even before these events occur in the fiction, namely when the event described is true in all complete branches. Whilst I gave up playing *Witcher III* after five minutes, if I *had* continued, it would have been fictionally true *that Geralt reaches Novigrad*, because it is true in all complete branches.[9] Therefore, this proposition *is* fictionally true even when I give up after five minutes, and is true in all branches—even incomplete ones—solving the problem which began this section, where propositions about future events were precluded from being work-true.

Yet there is a problem with this suggestion that fictional inevitabilities are true before they occur when we consider its consequences for non-interactive fiction. If we see interactive fiction as a branching structure, and thus non-interactive fiction as comprising a single branch, we then ought to say that *all* events in non-interactive fiction are inevitable in the required sense, for there is no branch in which they are otherwise. The above proposal was that certain fictional events occur in all branches

[9] Such counterfactuals, where one of the antecedent or consequent are claims outside the fiction, can be evaluated with the familiar possible worlds semantics. Fictional counterfactuals, however, such as "If Geralt had travelled north, he would have reached Novigrad", can be evaluated with respect to complete branches. The above counterfactual is true iff the closest complete branch to the ones that capture my playthrough so far in which Geralt *did* travel north is a branch where he reached Novigrad. Again, positing branches of interactive fictions is of philosophical utility.

and are thus fictionally inevitable, with propositions describing them true even before the events occur.

When we are dealing with a non-interactive fiction with just *one* branch, however, *all* propositions about events that later occur in the fiction satisfy this criterion, and hence are true before the events occur. This seems to be at odds with how we generally think about non-interactive fiction. At the beginning of *A Study in Scarlet*, it does not seem to be at *that* point fictionally true that Holmes and Watson, yet to even meet, will strike up their prolific partnership. At that point, it is fictionally possible that many other courses of events occur. (It is arguably inevitable that certain things are fictionally true, but these events are not *fictionally* inevitable). In general, when we discuss what is true in a non-interactive fiction, we take it that alternate courses of events could occur. Propositions describing such future events in non-interactive fiction thus seem to be neither true nor false before the events they describe actually occur (Bourne & Caddick Bourne, 2016, ch. 4).

Of course, we might hold that in *some* rare cases, fictional propositions about future events can be true before the events occur, for instance in cases of true prophecies or time travel (Le Poidevin, 2007, ch. 8). In these cases, then, perhaps a fictional proposition describing a future event *can* be fictionally true before the event occurred. But such cases are the exception, rather than the norm, yet the above solution to our problem for interactive fiction renders inevitable *all* future events in non-interactive fiction.

Despite its seeming at odds with how we discuss fictions, we might be prepared to bite the bullet and accept this fictional determinism, where all propositions about future fictional events are future necessities—the events they describe will inevitably come to pass in the fiction. Even so, such a view is not required to solve our problem for interactive fiction where apparent work-truths are not true in incomplete branches. I will now present a far simpler solution, where we just deny that incomplete branches are relevant to determining what is work-true.

3.3 Rejecting incomplete branches

Ultimately, the best way to avoid incomplete branches causing problems for the account of work-truths and branch-truths is to simply deny that incomplete branches form a part of our domain in determining what is work-true and branch-true. Here, it is once again helpful to draw the analogy between branches and possible worlds.

Possible worlds are complete ways that things could be, in that they leave nothing undecided—for every proposition p, in each possible world it is either true that p or that $\neg p$. Possible worlds thus cannot have the exact same past as the actual world but have an open future—there is a *set* of possible worlds which have the same past as the actual world, but each individual possible world has its own determinate future about what will happen in it.

Just as there are, strictly speaking, no incomplete possible worlds, there are no incomplete branches. When I play for five minutes then quit, this is not a unique branch—the fragment I played comprises a small part of many possible complete branches, each of which will contain different subsequent fictional truths.

While we might find it useful to talk of incomplete branches, strictly speaking all branches are complete in that they describe a full set of fictional truths throughout the whole interactive fiction.[10] Incomplete branches thus are reducible to a set of complete branches which are identical until the moment the player stopped playing, but which diverge later. The sooner one stops playing, then, the larger the set of branches that captures one's experience.

This may seem at odds with our aesthetic practices. After all, the object of my attention and evaluation would appear to be a single object—my playthrough—rather than a set of branches. The relation here, however, is that the fictional content of my playthrough is captured by this set of branches, and these branches detail the various ways in which the fictional content of my playthrough can develop as I proceed further. Consequently, whilst the object of our evaluation is a particular playthrough, the set of branches is still indispensable in detailing this playthrough's current and future fictional content.

Incomplete branches therefore do not form a part of our domain of branches that determine what is work-true and branch-true—the various complete branches that *comprise* this incomplete branch do. It seemed that incomplete branches rendered supposed work-truths as merely branch-true; it was only branch-true *that Geralt reaches Novigrad* because in branches where the player stops playing before Geralt reaches Novigrad, this proposition is not true. Yet this proposition is in fact work-true, because in every *complete* branch, it is true *that Geralt reaches Novigrad*.

Once we recognise that incomplete branches are in fact just sets of complete branches, and evaluate whether a proposition is work-true or branch-true with respect to these complete branches, this misclassification problem for propositions about future events disappears, allowing us to maintain the original characterisation of work-truths as true in all branches and branch-truths as true in only some.

Having demonstrated how this problem can be evaded, let us now turn to a further issue for the work-truth/branch-truth distinction, namely that it is inconsistent with the plausible thesis that some mistakes in interactive fiction are fictionally true.

4 Fictional truths about mistakes

In this section, I show how the work-truth/branch-truth distinction conflicts with Nele Van de Mosselaer and Nathan Wildman's (2021) argument that mistakes in interactive fiction, such as glitches, can contribute to fictional content. Fictional mistakes render propositions false in a branch, and thus incapable of being work-true, resulting in a similar undergeneration of work-truths to that of the previous section regarding future fictional events. I outline this conflict in more detail, before proposing an account of truth in interactive fiction which accommodates both the work-truth/branch-truth distinction *and* that mistakes can generate fictional content in interactive fiction.

[10] Note that the completeness of branches is slightly different to possible worlds; a branch takes the domain of propositions it is complete with respect to as more limited. For each proposition p that is branch-true in *some* branch, in a particular branch it is either true that p or that $\neg p$. Branches are therefore complete with respect to all *potential* branch-truths, rather than *all* propositions as possible worlds are.

It might seem farfetched that mistakes can contribute to fictional content; we tend to simply disregard typographical errors in literature (Currie, 1990, p. 87; Walton, 1990, p. 183; Matravers, 2014, p. 131).

In Karen Harper's *The Queen's Governess*, for instance, the following sentence appears:

> I tugged on the gown and sleeves I'd discarded like a wonton last night to fall into John's arms. (2011, p. 257)

It is not fictionally true that the gown was removed like a Chinese dumpling—"wanton" was mistyped as (or perhaps confused with) "wonton", and it is fictionally true that the gown was discarded lasciviously.

Van de Mosselaer and Wildman, however, argue that in rare cases, glitches in videogames *do* generate fictional content when the player interacts with them. This might occur unknowingly, or we might be aware that we are interacting with a glitch. Without granting the glitch to be fictional, however, we lack a sufficient explanation of what occurs in the fiction.

For instance, in *Pokémon Red* the player can encounter a glitched Pokémon "MissingNo" by talking to an old man then flying to a certain region of the game. The Pokémon can be caught, join the player's collection and thus function like any other non-glitched Pokémon. If we simply disregard fictional mistakes, as seemed plausible for non-interactive fictions, it is not fictionally true *that MissingNo is a Pokémon*, *that it is in your party*, or *that MissingNo joins the hall of fame* when you beat the game.

Unlike non-interactive fictions, however, Van de Mosselaer and Wildman argue that in videogames we ought to grant that some glitches generate fictional truths, since in videogames (and interactive fiction more generally) the audience is given a role in determining fictional content. Interactive fictions, and videogames especially, are often *self-involving*, in that the player imagines themselves to be someone in the fictional world (Robson & Meskin, 2016). As a result of this relationship between player and player-character, the *player's* real interaction with and acceptance of a glitch, taking it as fictional, entails the *player-character's* interaction with it in the fictional world, hence the glitch becomes fictionally true. Of course, most glitches, such as visual bugs and game crashes, generate no fictional content; but certain glitches can in the above way when they are consistent.

While such glitches are specific to videogames, mistakes in other forms of interactive fiction can similarly generate fictional truths. A consistent typographical error in a *Choose Your Own Adventure* novel, for instance, functions differently to a similar mistake in a non-interactive fiction. The audience interacting with the mistake in *interactive* fiction, for instance making decisions on the basis of it, *establishes* the mistake as fictionally true, in the same way as glitches in videogames above. The mistake in non-interactive fiction ought to be disregarded and will not contribute to what is fictionally true.

That mistakes generate fictional truths threatens the work-truth/branch-truth distinction, since mistakes prevent certain propositions from being true in *all* branches of the work. As a result, certain propositions which ought to be work-truth again turn out not to be, since in some branch they are false. For instance, we might think that in *Pokémon Red*, it ought to be work-true *that there are 151 Pokémon*. If we grant

that glitches can generate fictional content, however, then in the branch in which we encounter *MissingNo*, it is fictionally true *that MissingNo is a Pokémon*. In this branch, then, it is not true *that there are 151 Pokémon*—there are 152. Any proposition, no matter how seemingly essential to the interactive fiction, cannot be work-true if there is *some* branch in which it is false due to a generative glitch, even if that branch is incredibly rare and difficult to encounter.

Therefore, certain propositions which seem like they ought to be work-truths are again rendered mere branch-truths because in *some* branch they are false. The motivation behind making the distinction between work-truths and branch-truths in Sect. 2 was its utility in discussing interactive fiction—it allows us to usefully distinguish the elements which are fixed from those which are up to the audience. Willis's account, however, misclassifies certain apparent work-truths as only branch-truths, since her criterion for work-truths demands that they are true in *all* possible branches, yet mistakes can render even seemingly fixed fictional truths false in *some* branch.

Willis recognises potential problems for her account if bugs and glitches are granted as fictional, but she simply denies that they are so (2020, p. 107). The Waltonian account of truth in fiction she employs, however, does allow for there to be fictional truths unintended by the creator, such as mistakes—we can be prescribed to imagine something that the author did not intend (Walton, 1990, p. 24).

Regardless, similar cases of undergeneration can occur without any reliance on mistakes in interactive fiction contributing to fictional truth. Take the videogame *Star Wars: Knights of the Old Republic*. When faced with the final boss, Darth Malak, the game contains a hidden ending that if the player inputs a certain combination of buttons, the fight is turned into a dance off, and the game ends without the player having to defeat their nemesis. Consequently, there are many complete branches ending this way in which the player does not defeat Darth Malak, hence it is not work-true *that the player defeats Darth Malak*, despite this seeming like it ought to be classified as such.

A similar problem is posed by videogame cheats, which can skip entire portions of the game. Again, these result in complete branches in which key narrative events are bypassed, hence these events are prevented from being work-true. Ideally, we would still be able to talk about the work-truths of such interactive fictions as comprising the key events in the main story, despite there existing such rogue branches in which they never occur. In the next section, I provide an account of truth in interactive fiction on which this is possible.

5 Actual and implied works

The work-truth/branch-truth distinction for interactive fiction faces problems when we grant that mistakes can generate fictional content. Yet interactive fiction seems to be the form of media where we are *most* inclined to grant mistakes as generating fictional content. In this section, I show how we can employ the work-truth/branch-truth distinction, whilst also maintaining that in interactive fiction, mistakes can generate fictional content. I argue that for interactive fiction, we ought to distinguish two works—the actual work, and the implied work.

The work-truth/branch-truth distinction could be maintained by simply rejecting that mistakes contribute to fictional content, as we are inclined to do for other media. Suppose that for interactive fiction we adopted an intentional account of truth in fiction (as opposed to the Waltonian conception Willis prefers) whereby fictional truth depends on what the author intended to communicate [as held by Currie (1990, p. 31), Phillips (1999, p. 287), and Davies (2007, pp. 45–48)]. Mistakes would no longer be fictionally true, since they are not what the author intended to communicate. We could then maintain the account of work-truths and branch-truths, avoiding the aforementioned problems that result from mistakes generating fictional truths.

On this proposal, we consider what is true in possible branches of a mistake-free interactive fiction. Espen Aarseth labels an envisioned mistake-free videogame as the "implied game object" (2011, p. 66). Whilst we encounter videogames containing bugs and glitches, we can imagine an implied game without these mistakes. When we consider truth in interactive fiction, we might simply consider what is true in this implied work, rather than the actual work which contains these mistakes.

Arguably, we are far more interested in the implied work for other media. Typographical errors in literature, or the barely-visible reflection of the cameraman in film, are not part of the implied work—we judge that these elements of a work are not as intended, and hence are not fictionally true.

I have agreed with Van de Mosselaer and Wildman, however, that we *should* grant mistakes to be generative of fictional content in interactive fiction. Yet we can still make use of this idea of an implied work—a work which does not contain such mistakes—which allows us to maintain both the work-truth/branch-truth distinction and that mistakes in interactive fiction generate fictional truths.

We can therefore distinguish two aesthetic objects—the *actual* and the *implied* work—and index fictional truths to one of the two. In the actual work, which describes what the work *actually* represents, mistakes are represented and hence do contribute to fictional content. As a result, the actual work contains very few work-truths. In the implied work, on the other hand, mistakes do not contribute to fictional content since they are unintended by the creator, hence this work does not undergenerate work-truths in the same way as Willis' account. Distinguishing the actual and implied work thus allows us to prevent generative glitches from interfering with the aesthetically useful category of work-truths.

We might even supply differing accounts of truth in fiction to govern what is true in the actual and in the implied work. Walton (1990, p. 24) allows that fictional truth can outrun authorial intention—what a work prescribes us to imagine may not be what the author intended. Lewis's (1978, p. 45) *Analysis 2* similarly allows for there to be unintended fictional truths, when certain propositions would cohere better with the existing story than those which the author actually intended. One such account could govern fictional truth in the actual work, whilst retaining an intentional account for the implied work.

There are, of course, various problems for intentional accounts of truth in fiction. Creative intentions might overly restrict interpretations of a work, or may just be inscrutable or ambiguous (Wimsatt & Beardsley, 1946, p. 469, Dutton, 1987, Barnes, 1988, pp. 80–81; see Davies, 2006 for responses to such worries). The latter problem of ambiguous or even mixed intentions is compounded for interactive fictions such

as videogames which are often the product of multiple authorship, created by vast studios rather than a single author, in which there will inevitably be disagreements in creative intention. Consequently, the implied work is perhaps better thought of as the best-warranted *hypothesis* of what the authors intended (Levinson, 2010), rather than the work that was *actually* intended (Carroll, 2000). The present solution to the problem of glitches, however—the appeal to the actual/implied work distinction—will be unavailable to those who reject intentional accounts of truth in fiction altogether.

We already often distinguish the actual and the implied work. I might discuss my favourite glitches in a videogame, and hence refer to the actual work. Yet I can also say to a friend "You *have* to steal the dragon's treasure to complete the game" even though I know that one can use a glitch and skip the entire dragon section of the game. I have not lied—I have just been referring to the implied work, rather than the actual one, in which it genuinely *is* true in all branches that you steal the dragon's treasure.

The above example demonstrates one of the benefits of distinguishing actual from implied work. The implied work is vital to discussing the ethics of actions within interactive fiction. When we discuss what is wrong with certain troubling actions in videogame, a highly relevant factor is whether the player *has* to complete these actions in order to proceed. If the player could have done otherwise, this seems to increase the player's moral responsibility for any problematic actions they perform (Bartel, 2015, 2020, pp. 145–151). If a player must torture an innocent person in a videogame to proceed, we might see this as less morally blameworthy than if the player actively chose to, despite having the option not to do so.

Yet the claim that a player has to perform a particular action to complete the game is often strictly speaking false. The player often *can* complete a game without doing any of the actions supposedly required, by employing glitches and modifying the game in various ways. The player cannot complete the *implied* work in this way, however—the implied work does not include any such glitches to be exploited, since these are unintended. Therefore, the notion that the player has to perform certain actions to complete the game can only hold for the implied work, which captures the possibilities we regard as relevant when assessing virtual actions in terms of whether the player could have done otherwise.[11]

The distinction between the actual and implied work also resolves the problem from Sect. 4 where work-truths are undergenerated due to secret endings and cheats that skip portions of the game. The problem was that such phenomena resulted in branches in which key narrative elements of the game never occur, hence propositions describing these events cannot be work-true. Yet the whole point of work-truths was to capture such elements and distinguish them from the more contingent elements of an interactive fiction's narrative.

Distinguishing the actual and implied work alleviates such work-truth deficits. Branches with secret endings or featuring cheats that skip parts of the game are not

[11] Wildman and Woodward's above proposal that the player must resolve incompleteness in interactive fiction similarly can only concern the implied work if it is to be plausible. Many apparent binary choices between p and $\neg p$ can be avoided altogether by *some* glitch, therefore the player is not genuinely *forced* to resolve this incompleteness in the actual work.

part of the implied work—they are only branches of the actual work.[12] These elements of the game, whilst perhaps intended to be in the game, are not intended to contribute to its fictional content. As such, these branches are not part of the implied work, hence it is work-true in the implied work *that the player must defeat Darth Malak*, for instance. Appeal to the implied work allows us to maintain the utility of work-truths as capturing these key narrative elements.

Finally, the distinction between actual and implied work is of philosophical benefit. Proponents of intentional accounts of truth in fiction, who require authorial intention for a proposition to be fictionally true, face a problem when Van de Mosselaer and Wildman argue that mistakes in interactive fiction generate fictional truths, since these would be fictional truths unintended by the creator of the work.[13] An antagonistic response would be to simply deny that such mistakes generate fictional truths, explaining away appearances to the contrary.

The distinction between the actual and the implied work, however, allows proponents of intentional accounts a far more conciliatory response. They can grant that mistakes generate fictional truths in *some* sense—mistakes do, after all, generate fictional truths in the *actual* work. Yet what we are often far more interested in is the *implied* work, in which such mistakes are not fictionally true, and which is governed perfectly well by intentional accounts of truth in fiction. Hence, intentional accounts of truth in fiction can accommodate glitches generating fictional content by restricting such generation to the actual work and maintaining an intentional account for the implied work.

One concern we might have about this distinction between actual and implied works is that it might seem to involve abandoning the normativity of fictional truth. What is fictionally true is important insofar as this is what we are *prescribed* to imagine when engaging with a work. Yet when there are two different sets of fictional truths, one for the actual work and one for the implied work, this normativity perhaps seems to be lost, with it left up to us what we want to imagine.

The distinction between the implied and actual work, however, does not permit such a *laissez faire* approach, whereby we can imagine whatever we like. The implied and actual work maintain their normativity insofar as they each prescribe us to imagine certain propositions; it is just that these prescriptions in some rare cases conflict. But the response to conflicting prescriptions is not to obey neither! We must choose what to imagine in these cases, and hence which of the actual or implied work we engage with. When I play to enjoy the story of a videogame, I tend to disregard glitches; yet when I speedrun the game, trying to complete it as fast as possible, glitches are an integral part of the fictional world that I can exploit to finish the game faster. Hence, the normativity of fictional truth is maintained even when we distinguish the actual from the implied work.

[12] Some secret endings do form part of the implied work, since they are intended to constitute genuine alternative endings to the fiction. I take it that the dancing ending of *Star Wars: Knights of the Old Republic* is not one of this kind, and is more of a "joke" ending.

[13] I am indebted to Hannah Kim for drawing attention to this connection.

6 Applications in aesthetics

Interactive fiction poses various problems for traditional accounts of truth in fiction, since it grants the audience an authorial role and subsequently seems to allow some mistakes to generate fictional content. I have argued that Willis's work-truth/branch-truth distinction, in conjunction with the thesis that some mistakes generate fictional truths in interactive fiction, undergenerates work-truths, since propositions which ought to be work-true turn out to only be branch-true because they are false in the branches that contain mistakes.

To avoid this problem, I have proposed that we distinguish two works for each interactive fiction—the *actual* work, in which mistakes are fictionally true, and the *implied* work, where truth in fiction is determined by creative intention, and mistakes thus do not generate fictional content. My account makes consistent the work-truth/branch-truth distinction and the proposal that mistakes in interactive fiction generate fictional content.

The distinction between the actual and the implied work is particularly useful for interactive fiction for two reasons. First, in interactive fiction the audience takes on a different role to in non-interactive fiction, in that they determine the fictional content to some extent. Therefore, as outlined in Sect. 4, mistakes *become* fictional through the audience interacting with them. These mistakes will comprise differences between the actual and implied work, so we will want to distinguish each as separate aesthetic objects.

Second, owing to the sheer volume of mistakes in interactive fiction—particularly in digital media such as videogames—the actual work might differ *significantly* from the implied work. Given the immense technical difficulties that afflict some videogames, especially at release, we need to be able to describe both the narrative of the game as it *actually* is, as well as what an implied, mistake-free version of that narrative would look like. Unfortunately, since many modern videogames contain a plethora of glitches, aesthetic evaluations such as reviews must take into account such discrepancies between the actual work and the implied work.

Let me conclude, however, by briefly considering how the distinction between actual and implied work might be put to further use elsewhere in aesthetics. First, it can also be applied to the interpretation of non-interactive fictions. Stacie Friend (2017, p. 39) argues that in *The Adventures of Huckleberry Finn*, there are fictional truths unintended by the implied author, contrary to Currie's (1990) account. The implied author intends Jim, an escaped slave, to be a comic figure, yet readers today will likely reject this representation, imagining Jim as actually being afflicted and resilient. Thus, what we think of as fictionally true is not what the implied author intends to communicate, *contra* Currie.

In such a case—where the implied author's intentions do not match our own interpretation of what is fictionally true—we should not completely reject intentions as being relevant to fictional truth. We can describe the story both as the implied author intends it, and as we think it *actually* is. Thus, we can distinguish the actual and

implied works for *Huckleberry Finn*—it is true in the implied work *that Jim's suffering is amusing*, but not in the actual work.[14]

The distinction between actual and implied work is useful in such cases when the author intended, or claims that they intended, something to be fictionally true, yet we dispute that it is really so. We can specify the fictional content of the implied work, but also maintain the ability to discuss the work as it *actually* is, focusing our aesthetic evaluation on the actual work.

Distinguishing the actual and the implied work is also essential to our evaluation of unfinished works. Videogames offer a plethora of prematurely released artworks, though more generally we can employ the actual/implied work distinction in our aesthetic evaluation of such works. For instance, when an author dies before a literary work has been completed, an executor is often appointed to decide what to do with the incomplete work. In some cases, the executor's decisions are controversial. Ernest Hemingway's *The Garden of Eden* was published posthumously in a much-abridged form, with executor Charles Scribner Jnr. cutting the 1,189 page original manuscript to a mere 247 pages, prompting criticism of this "literary crime" (Solomon, 1987, p. 31).

Here, we can once again distinguish the actual work from the implied work, with each containing distinct fictional content. The implied work comprises the original manuscript, subject to whichever changes we suppose Hemingway himself intended to make, while the published version is the actual work.

Criticism of the published version's editing *requires* this distinction between actual and implied work—we must have in mind what the work was *intended* to be in order to criticise the actual work for not living up to it. There are sufficient similarities in content that we should regard these as an actual and implied version of the *same* work, rather than distinguishing them as fully distinct aesthetic works, in which case the criticism of the published work for not living up to Hemingway's intentions seems far less apt. The distinction between actual and implied work again is required for us to pursue this line of criticism.

Whilst I have argued that an account of truth in interactive fiction, and our aesthetic evaluation of videogames especially, requires a distinction between the actual and implied work, arguably this distinction is already required for much of our discourse about unfinished and unintended artworks.

Acknowledgements For extremely helpful comments and discussion, I would like to thank Wouter Cohen, Liv Coombes, Daisy Dixon, Owen Griffiths, Hannah Kim, Rae Langton, Ally Louks, Derek Matravers, Jeremi Miller, Alex Oliver, Michael Potter, Mat Simpson, Nele Van de Mosselaer and Nathan Wildman, as well as audiences at the *Serious Metaphysics Group* and a *Southern Aesthetics Workshop/Aesthetics for Birds* event. I would also like to thank our librarian at the Casimir Lewy Library, Jo Harcus, for her continual aid in accessing the resources required for this project.

Funding This research was supported by a Society for Applied Philosophy doctoral scholarship.

[14] For another example, take the controversy surrounding J.K. Rowling's pronouncement following the publication of the final book in the *Harry Potter* series that Dumbledore is gay. We can perhaps take *Dumbledore is gay* as true in the implied work, yet not in the actual work.

Declarations

Conflict of interest The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

Aarseth, E. (2011). Define real, moron! Some remarks on game ontologies. *DIGAREC Series, 6*, 50–69.
Barnes, A. (1988). *On Interpretation: A critical analysis*. Basil Blackwell.
Bartel, C. (2015). Free will and moral responsibility in video games. *Ethics and Information Technology, 17*(4), 285–293. https://doi.org/10.1007/s10676-015-9383-8
Bartel, C. (2020). *Video games, violence, and the ethics of fantasy: Killing time*. Bloomsbury Publishing.
Bourne, C., & Bourne, E. C. (2013). Fictional branching time? In A. Iacona & F. Correia (Eds.), *Around the tree* (pp. 81–94). Springer.
Bourne, C., & Bourne, E. C. (2016). *Time in fiction*. Oxford University Press.
Bourne, C., & Bourne, E. C. (2018). Personification without impossible content. *British Journal of Aesthetics, 58*(2), 165–179. https://doi.org/10.1093/aesthj/ayy008
Carroll, N. (2000). Interpretation and intention: The debate between hypothetical and actual intentionalism. *Metaphilosophy, 31*(1/2), 75–95.
Currie, G. (1990). *The nature of fiction*. Cambridge University Press.
Davies, D. (2007). *Aesthetics and literature*. A&C Black.
Davies, S. (2006). Authors' intentions, literary interpretation, and literary value. *British Journal of Aesthetics, 46*(3), 223–247.
Declos, A. (2020). Fact, fiction and virtual worlds. In R. Pouivet & V. Granata (Eds.), *Epistemology of aesthetics* (pp. 195–219). Presses Universitaires de Rennes.
Dutton, D. (1987). Why intentionalism won't go away. In A. J. Cascardi (Ed.), *Literature and the question of philosophy* (pp. 194–209). Johns Hopkins University Press.
Friend, S. (2017). The real foundation of fictional worlds. *Australasian Journal of Philosophy, 95*(1), 29–42. https://doi.org/10.1080/00048402.2016.1149736
Hanley, R. (2004). As good as it gets: Lewis on truth in fiction. *Australasian Journal of Philosophy, 82*(1), 112–128. https://doi.org/10.1080/713659790
Harper, K. (2011). *The Queen's governess*. Random House.
Ingarden, R. (1973). *The literary work of art: An investigation of the borderlines of ontology, logic, and theory of language*. Northwestern University Press.
Le Poidevin, R. (2007). *An essay on temporal representation*. Oxford University Press.
Levinson, J. (2010). Defending hypothetical intentionalism. *The British Journal of Aesthetics, 50*(2), 139–150. https://doi.org/10.1093/aesthj/ayp072
Lewis, D. (1978). Truth in fiction. *American Philosophical Quarterly, 15*(1), 37–46.
Lewis, D. (1983). Postscript to truth in fiction. In D. Lewis (Ed.), *Philosophical papers* (Vol. 1, pp. 276–280). Oxford University Press.
Matravers, D. (2014). *Fiction and narrative*. Oxford University Press.
Meskin, A., & Robson, J. (2012). Fiction and fictional worlds in videogames. In J. R. Sageng, T. M. Larsen, & H. Fossheim (Eds.), *The philosophy of computer games* (pp. 201–218). Springer.
Phillips, J. F. (1999). Truth and inference in fiction. *Philosophical Studies, 94*(3), 273–293.

Priest, G. (1997). Sylvan's box: A short story and ten morals. *Notre Dame Journal of Formal Logic, 38*(4), 573–582.
Robson, J. (2018). The beautiful gamer? On the aesthetics of videogame performances. In J. Robson & G. Tavinor (Eds.), *The aesthetics of videogames* (pp. 78–94). Routledge.
Robson, J., & Meskin, A. (2016). Video games as self-involving interactive fictions. *The Journal of Aesthetics and Art Criticism, 74*(2), 165–177. https://doi.org/10.1111/jaac.12269
Solomon, B. P. (1987). Where's Papa? *The New Republic*, March, 30–33.
Tavinor, G. (2009). *The art of videogames*. Wiley-Blackwell.
Van de Mosselaer, N., & Wildman, N. (2021). Glitches as fictional (mis)communication. In T. Barker & M. Korolkova (Eds.), *Miscommunications: Errors, mistakes, media* (pp. 300–315). Bloomsbury Academic.
Walton, K. L. (1990). *Mimesis as make-believe: On the foundations of the representational arts*. Harvard University Press.
Wildman, N., & Woodward, R. (2018). Interactivity, fictionality, and incompleteness. In G. Tavinor & J. Robson (Eds.), *The aesthetics of videogames* (pp. 112–127). Routledge.
Willis, M. D. (2019). Choose your own adventure: Examining the fictional content of video games as interactive fictions. *The Journal of Aesthetics and Art Criticism, 77*(1), 43–53. https://doi.org/10.1111/jaac.12605
Willis, M. D. (2020). The importance of the playthrough: A response to Ricksand. *The Journal of Aesthetics and Art Criticism, 78*(1), 105–108. https://doi.org/10.1111/jaac.12691
Wimsatt, W. K., & Beardsley, M. C. (1946). The intentional fallacy. *The Sewanee Review, 54*(3), 468–488.