Fictional Import*

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Abstract

One approach to the analysis of fiction is to assume that the propositions that make up a work of fiction are accepted into an "unofficial" common ground in which the fictional propositions are accepted. In this paper, we will outline the shortcomings of this approach which all are based on the observation that the common ground of fictional work and the ordinary, reality-based common ground can import propositions from each other. We will discuss four kinds of imports: 1) Import from reality to fiction, 2) import from fiction to fiction, 3) import from fiction to reality, and 4) import from reality into fiction via what can be called enacting fiction. We will model these imports by multiplying the notion of common ground into multiple common grounds (an official common ground and unofficial common grounds for each work of fiction) and relativizing the notion of assertion. Propositions can be imported from one common ground to another, constrained by pragmatic rules about inferences between them. Crucially, imported propositions must be indexed for their source, because imported propositions can be deleted from a common ground if conflicting propositions are added to the fictional common ground. We will discuss some semantic and pragmatic principles that govern fictional import.

Keywords: *fiction, fictional statements, common ground, assertion, strong assertion, formal pragmatics*

1 The problem of fictional statements

When we engage with a work of fiction, we rarely, or almost never, start with a complete blank slate. Instead, we bring with us a lot of assumptions both from what

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we believe to be the case in the reality and what we know from other, similar types of fiction. But we are also inclined to consider aspects of a work of fiction as informing us about the real word. Let us call such interactions between reality and fiction, between fiction and fiction, and between fiction and reality *fictional import*. This is what this paper is about and we are going to present a simple framework for describing different kinds of fictional import.

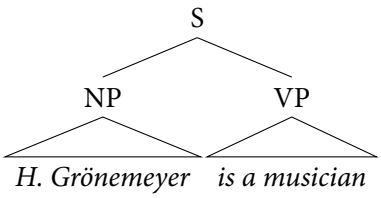
What we are *not* going to do to in this paper is to dive too deeply into the semantic and philosophical questions that recently gained much traction among linguists and philosophers (see, for instance, the various interesting contributions in Maier & Stokke 2021). However, let us briefly state what we consider the *problem of fictional statements*, as the way we think about this problem informs the way we are setting up our system for a dynamics of fiction and fictional import. Hence, let us consider the following two sentences.

(1) Herbert Grönemeyer is a musician.

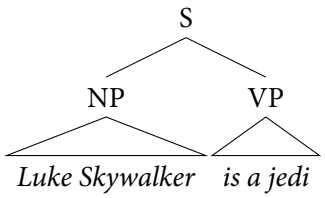
(2) Luke Skywalker is a jedi.

Linguistically speaking, the sentences in (1) and (2) very much look similar. From a purely syntactic perspective, the two sentences are identical as they share the same syntactic structure. A really simplified version for a syntax of (1) and (2) can be given as follows.

(3) a.



b.



In both cases, there is a noun phrase that combines with a verb phrase to form the sentence. And this structure is arguably the same for (1) and for (2).

But it is not just syntax: Even from a semantic perspective, these two utterances, *prima facie*, exhibit exactly the semantics structure in which a predicate – »musician« on the one hand and »Jedi« on the other – applies to an individual argument: »Herbert Grönemeyer« or »Luke Skywalker«. That is, we have a basic predicational structure that, semantically, comes down to simple functional application.

(4) a. **musician(herbert grönemeyer)**
b. **jedi(luke skywalker)**

However – and this is where the problem of fictional statements starts – besides the parallel syntactic and semantic structure between (1) and (2), there are huge pragmatic differences between these two utterances. By uttering (1), the speaker is

making an ordinary assertion that makes a statement about a real person (Herbert Grönemeyer) being a musician in the real world. And this utterance is true in the real world (if Grönemeyer is a musician in the real world, which, in fact, he is).

In contrast, by uttering (2), the speaker is saying something about the non-existent, fictional person Luke Skywalker that he is jedi. And this utterance is, of course, not true in the real world, because neither Luke Skywalker exists in the real world nor are there, despite some serious attempts at training, any jedi in the real world. However, an utterance of (2) says something true because, in the fictional Star Wars universe, Luke Skywalker, of course, is a jedi. But how can there be such a profound pragmatic (and some may argue, even semantic) difference between (1) and (2) if there are no meaningful differences between the syntactic and semantic structure of the two sentences. This is the problem of fictional statements.

We will not attempt to argue for a specific solution of that problem (and related subproblems like the reference of fictional names and the ontological status of fictional characters) in this paper. We will adopt the position, that whatever the difference between ordinary statements and fictional statements is, it is a matter of pragmatics, not semantics. We will assume that both sentences, (1) and (2), just express propositions and that there is no semantic difference between factual and fictional propositions.

(5) a. $\{w$: Herbert Grönemeyer is a musician in $w\}$
b. $\{w$: Luke Skywalker is a jedi in $w\}$

This position, obviously, contrasts with a Lewis-style approach that analyzes fictional statements as involving a (often covert) modal operator (Lewis 1978). According to such an approach, a statement like (2) would actually be analyzed in the spirit of (6) in which the proposition is embedded under a »fiction operator«.

(6) In the Star Wars movies: Luke Skywalker is a jedi.

Without going into deeper arguments over such an approach, we think that it is misguided, at least for statements that do not involve explicit operator-like expression. If we allowed for covert fiction operators for sentences like (1), that would render every plain declarative sentence semantically ambiguous and in myriad ways, because every sentence may contain such a fictional operator – for every possible work of fiction. As it will become clear in this paper, we think that there is indeed a corresponding ambiguity, but that ambiguity is a matter of pragmatics. We think, Emar Maier (2018) encapsulates this idea very pointedly:

> The aim of semantics is to specify a systematic theory that derives truth conditions (in the form of possible worlds propositions) from the syntactic structure of sentences and the lexical meanings of the

> words in it. What speaker and hearer *do* with this set of worlds once it's derived is not part of the semantics proper. (Maier 2018: 306, his emphasis)

When we see a sentence in isolation (and in the absence of any sentence-internal indicators that we are dealing with fiction), we cannot know if the sentence is intended to be understood as a statement about the real world or as a fictional statement. And it is a matter of pragmatics to figure this out.[1] This is, in a nutshell, also the position we adopt in this paper. In the following, we will spell out in a bit more detail how we think about how the pragmatic difference between (1) and (2) can be understood, that is, we will distill the difference in »what speaker and hearer *do*« with the propositions in (5) that the semantic system derives from the syntactic structures in (3). This leads us to what we call the »sandbox approach« to fiction.

2 The sandbox approach to fiction

As just laid out, we assume that semantically, fictional statements, like ordinary statements, express ordinary propositions. However, when we utter a fictional statement like (2), we do not do the same pragmatically as when we utter an ordinary statement like (1). However, we take both ordinary and fictional statements to be assertions.[2] And we understand assertions here as Stalnaker-style assertions: An assertion is a proposal to update the common ground (Stalnaker 1970, 1978). And the common ground is understood as the set of propositions that are mutually and publicly believed to be true by the discourse participants (see Haas-Spohn 1991 for an overview of the formal definitions).

In order to employ these ideas for analysis of fiction, we need to make two modifications. First, using the concept of common ground for fiction cannot be based on Stalnaker's original definition of the common ground, because it is built on the notion of *belief*. But of course, we do not believe the propositions that make-up

[1] A similar position was also taken by Searle (1975), when he writes:

> [T]he identifying criterion for whether or not a text is a work of fiction must of necessity lie in the illocutionary intentions of the author. There is no textual property, syntactical or semantic, that will identify a text as a work of fiction. What makes it a work of fiction is, so to speak, the illocutionary stance that the author takes toward it, and that stance is a matter of the complex illocutionary intentions that the author has when [s/he] writes or otherwise composes it. (Searle 1975: 325)

For some discussion about Searle's approach to fiction, see, amongst many others, Zipfel 2001: Chap. 5.1 and Werner 2016: Chap. 2.2.

[2] See Gutzmann & Turgay (2019), who argue, contra Searle (1975), that fictional statements are genuine assertions.

a work of fiction. We, at least, do not believe that there are jedi or that something can travel faster than light. However, we may still *accept* these propositions as being true for the purposes of engaging with the fictional material, as has been argued by Maier (2018), following Sainsbury (2011). Hence, if we reconvince the common ground as »common knowledge of universal acceptance« (Maier 2018: 310), then we can plausibly assume that the propositions as expressed in a work of fiction can enter the common ground.[3]

Secondly, and maybe even more importantly, we cannot just have one common ground into which all propositions are added. If we had just one common ground, we would get into conflict very fast when we encounter fictional statements. For instance, if we want to accept the proposition that Luke Skywalker is a jedi as expressed by (2) into the ordinary common ground, we will end up with an inconsistent common ground, because the ordinary common ground, for most discourse participants at least, contains also the proposition that jedi do not exists.[4] The basic idea to get out of this but still employ the insights of Stalnaker's theory of shared information is simple: We multiply the idea of the common ground. That is, we do not only have the real or »official« common ground (for ordinary information exchange), but also multiple »unofficial« common grounds for each work of fiction.[5] Crucially, these different common grounds are separated from each other. This idea has been, to your knowledge, worked out in the most detailed way by Merel Semeijn (2021), who talks about different *workspaces* instead of common grounds.[6] We adopt a metaphor from software architecture: The different common grounds are »sandboxed«: Propositions that are added to one sandbox (i.e. common ground) do not interact with propositions in a different sandbox (i.e. common ground). Hence, we can have propositions in an unofficial common ground, say for the Star Wars universe, that may be contradictory to propositions in the official common ground without leading to any inconsistency. For instance, the common ground

[3] The idea, that the common ground is better be based on acceptance than belief, can already be found in Stalnaker 2002 and, has been argued for by Stokke (2013), in the context of lying and asserting. See Maier 2018 for a short overview.

[4] This was also pointed out by Lewis (1978). See also Parsons 1980 for a discussion centering around »nonexistent objects«.

[5] The core idea of having multiple common grounds seems to have been developed independently of each other. Eckardt (2015: Chap. 3) develops the idea of having more or less independent »story grounds« (which are like common grounds for fictional stories). The notions of having »official« and »unoffical« common grounds was suggested by Stokke (2013: § 5.2) in a discussion about lying and asserting, but he also suggests that unofficial common grounds are opened up when we engage with fiction (see also Stokke 2018). See Maier (2018: § 4.1) for an overview and discussion.

[6] The approach developed in Semeijn 2021 is more sophisticated than the simpler common ground approach that we employ here. Basically, her approach can be viewed as a combination of a multiple-common ground approach with a Lewis-style fiction operator approach: Fictional statements are first added to fictional »workspaces« which, after an operation of fictive closure, are added to the actual common ground under the fiction operator relevant to that fiction. See Semeijn 2017 for an earlier version.

$CG_{\text{Star Wars}}$ in (7a) contains the propositions that there are jedi and that the Falcon travels faster than light, whereas the official common ground, which we label $CG_@$, contains the propositions that there are no jedi and that nothing travels faster than light.

(7) a. $CG_{\text{Star Wars}}$: »There are Jedi«, »Han Solo is a good pilot«, »The Falcon travels faster than light«, …
b. $CG_@$: »Cologne is in Germany«, »Sonja works on fiction«, »There are no Jedi«, »Nothing travels faster than light«, …

Crucially, because these propositions are »sandboxed« from each other, these contradictions pose no problem: They can all be accepted as being true *with respect to their respective common ground*.

Figure 1 graphically illustrates the basic idea of the sandbox approach in a really simplified manner. On the left, there is the official common ground $CG_@$, that contains some propositions, and on the right, there is the unofficial common ground CG_F for the work of fiction F that contains a different set of propositions. While some proposition – p_2 and p_3 in this case – are an element of both common grounds, the common grounds are still separated from each other, and these propositions exist independently from each other in every sandbox.

The sandbox-style approach has a lot of intuitive appeal, because we can just accept different things as true (or false) for different purposes and the difference between ordinary and fictional statements just comes down to the question of into which common ground a proposition shall be added. This is what we meant, when we adopted the position that this difference is a pragmatic matter of what we do with the proposition expressed by sentences, and not so much a matter of the semantic system. To be more explicit – and we will be even more explicit later in Section 4.2 – we view both, fictional statements and ordinary statements as assertions, that propose that a proposition is added to an acceptance-based common ground. The whole difference is to which common ground the proposition is proposed to be added.

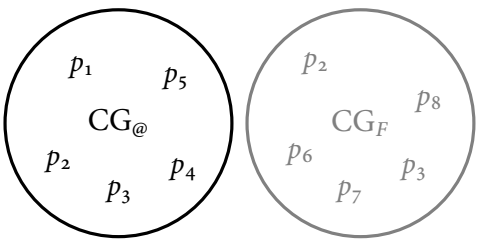


Figure 1 Two sandboxed common grounds: the official common ground $CG_@$ and an unofficial common ground CG_F for a work of fiction F.

Despite the appeal of the simple sandbox approach, it faces some problems, because, unfortunately, things are not that simple. The actual common ground and the fictional common grounds are not as isolated from each other as the sandbox metaphor suggests. In fact, there is a lot of import (and export) going on between the various common grounds that transfers propositions from one common ground to another. There is *fictional import*. The various ways in which this can happen is what we are discussing in the next section before we will we sketch a formal model that can implement and model the different kinds of import between the various common grounds.

3 Kinds of fictional import

There are four kinds of import relations that we are going to discuss in this paper. First, there is import of propositions into fictional common grounds, either from reality (i.e. the official common ground) or from fiction (i.e. other fictional common grounds). Furthermore, propositions are also sometimes imported *from* fiction into the official common ground. These three kinds of imports have, to various extents, been discussed before in the literature (besides Lewis 1978, see, for instance, Bonomi & Zucchi 2003; Maier 2018; Parsons 1980). However, we will discuss a fourth kind of import, which, as far as we know, has not been discussed before, and which is a special version of import from reality into fiction: import via what we call *enacting fiction*. By this, we understand when properties of actors (or other real-life object) are imported as properties of the fictional characters (or objects) that they enact.

(8) **Kinds of fictional import**

a. Import from reality into fiction
b. Import from fiction into fiction
c. Import from fiction into reality
d. Import from reality into fiction via what can be called *enacting fiction*

In the following, we will discuss these four kinds of import, before we then build a formal framework that can model these imports of proposition from one common ground into another.

3.1 Import from reality into fiction

It is well known that fictional work is not built completely from the propositions that are expressed and implied by the sentences that make up the work. Instead, it is fair to

say that every work of fiction imports some propositions from the ordinary common ground instead of starting off with a blank slate (cf. Bonomi & Zucchi 2003; Lewis 1978; see also Eckardt 2015: Chap. 3). If this weren't the case, every fictional work would be very long, because it would have to state or imply so many propositions in order to have them be part of the fictional common ground instead of copying them from the ordinary common ground.[7] That is, by importing propositions from the actual common ground, works of fiction are able to take many shortcuts by not expressing a lot of propositions that are part of our official common ground. In a sense, fictional common grounds piggyback on the actual common ground in many ways (see Prentice et al. 1997 for a psychological perspective).

For instance, when reading a romantic novel that is set in the 2010s in London, we are inclined to import propositions about London (9a), about the time at which the story takes place (9b), or even more basic propositions about humans nature (9c) or laws of physics (9d), as well as the knowledge that many objects that exist in other works of fiction do not exist in that fictional work (9e).

(9) a. London is in the UK and its biggest city.
b. Smartphones are a thing.
c. Humans need oxygen.
d. One cannot travel faster than light.
e. Vampires do not exist.

All these propositions can be imported from the actual common ground into the common ground of a work of fiction as long – and this is important – they are no contradictory propositions already in the common ground for that work of fiction. Of course, a proposition like »Vampires do not exist« will not be imported into the common ground of a vampire story and a proposition like »One cannot travel faster than light« will not be imported into the common ground of a »space fantasy« story.

Again, this is graphically illustrated in a simplified manner in Figure 2 on the next page. In contrast to Figure 1 on page 6, where the two common grounds were sandboxed, the actual common ground $CG_@$ and the fictional common ground CG_F *do* interact in this case. For instance, the propositions p_3 and p_9 are part of both common grounds. However, as the color-coding aims to show, they originally come from $CG_@$ and are only imported into the CG_F. Let us call $CG_@$ the *source* of

[7] The idea that, if not otherwise mentioned, the »world« in a fiction more or less resembles what we know about the actual world has been discussed, under various names and slightly different conceptualizations. For instance, the »Principle of Minimal Departure« (Ryan 1980), the »Reality and Mutual Belief Principles« (Walton 1990) or, more recently, the Reality Assumption (Friend 2017). They are akin, of course, to the way Lewis deals with counterfactuals (Lewis 1973) and truth in fiction (Lewis 1978). Interestingly, similar concepts have been employed in epistemology, for instance under the name of the »Safety Condition« (Pritchard 2005).

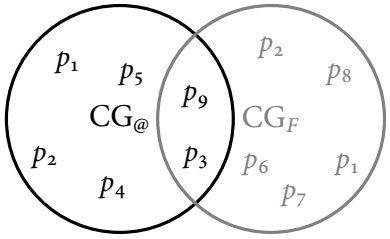


Figure 2 Import of propositions p_3 and p_9 from the official common ground $CG_@$ into the common ground CG_F of a work of fiction F.

these propositions, even though they also are part of CG_F. That we keep track of the source of propositions will become important later on. The reason is that we will need a way to keep track of which propositions in a common ground are »original« propositions of that common ground – we will call this the *original base* of the common ground – and which propositions are merely part of the common ground due to being imported from a different source. This is necessary, because imported propositions must be able to be overwritten or thrown out of the common ground if new information is added directly to the common ground that contradicts previously imported propositions. This is in addition to the just mentioned constraint that the import of propositions into a fictional common ground can only take place as long as they do not conflict with propositions that are part of the fiction.

The import from reality that we just discussed happened on the propositional level. However, there are similar interactions going on on the referential level. If, in a work of fiction, there's reference to persons or places that also exist in the real world, we assume that these persons or places somehow »correspond« to the persons or places in the real world, even though the exact relation between these is up to debate (for a more recent discussion on fictional names see Maier 2017 the target article of an issue of *Theoretical Linguistics*, and the responses it triggered, for instance Ninan 2017; Rami & Zimmermann 2017; Recanati 2017). However, since this opens up a lot of questions and requires dealing with discourse referents (see, e.g., Maier 2017; Semeijn 2021), we will leave that issue aside for the purposes of this paper and concentrate on the import of propositions (even though these may involve reference).

3.2 Import from fiction into fiction

The second kind of fictional import is what we call import from fiction into fiction. The interesting observation is that fiction does not build just on reality, but it can, and regularly does, also import propositions from other works of fiction. For instance, when we read a fictional work on vampires, we may be inclined to import a lot of propositions like those in (10), which all are propositions that do not come from

the actual common ground (because we know that vampires do not exist) but from common grounds of other works of fiction.

(10) a. Vampires are undead.
b. Vampires need blood.
c. Vampires cannot live in daylight.
d. Vampires can fly.

Like it was the case for the import from reality into fiction, import from other works of fiction into the common ground of another work of fiction only happens as long as the propositions to be imported are compatible with the propositions in the target common ground.

What is especially interesting about this kind of import is that we can collect our generalized knowledge about fictional objects like vampires by collecting related propositions from different works of fictions. On the one hand, this cannot just amount to just collecting all propositions about vampires from all common grounds that contain propositions about vampires, because this would end up with an inconsistent set of propositions because vampires may be rendered differently in different works on vampires, for instance, in some works, vampires can only enter a house if they are invited to do so, in others, this is not the case. On the other hand, we neither just only collect only those propositions that are shared between all common grounds, because, for instance, our knowledge about vampires may contain propositions that are not true in all common grounds, because every single work of fiction may only render a subset of those propositions true, even though we may want to include all of them into our generalized knowledge about vampires.

What is also important with import from fiction into fiction, even more so than with import from reality into fiction, is that these imports are highly dependent on the genre of fiction we are dealing with. Speaking of vampires again, if we considered the common grounds of all works of fiction, then we would not really be able to build any generalized knowledge about vampires because in the vast majority of fictional works, vampires do not exist (nor do they in the real common ground). That is, when building our knowledge about vampires, we should only consider common grounds of works of fiction that belong to the »vampire genre« of fiction. We will come back to all these issues later in Section 5.1.

3.3 Import from fiction into reality

The third kind of fictional import turns the direction: When engaging with a work of fiction, we sometimes will import content from that fictional common ground into the official common ground (see, amongst others, the discussions in Friend 2008; Green 2010). For instance, when reading a novel set in London at specific places

that are mentioned and detailed in that novel, we will, in lack of any countervailing evidence, most likely take that information as being true from London in the real world as well. That is, we can learn facts about the real world from fiction (for some psychological studies, see Marsh & Fazio 2007; Marsh et al. 2003; Prentice & Gerrig 1999).[8] Again, this should only happen if the propositions exported from the fictional common ground do not contradict any propositions that are in the common ground, even though people may nevertheless do that (Marsh & Fazio 2006). We will pick this up later on in Section 5.2.

The import from fiction into reality, however, does not just concern information that we can draw from works of fiction about the real world. We can also observe that sometimes we want to talk about the impact of fictional objects on objects in the reality, and hence the reality based common ground must have access to the generalized knowledge that we have about fictional objects, as the following examples illustrate.

(11) a. Vampires scare me; hence I always take garlic with me.
b. I want to have a date with Han Solo.
c. I had a boyfriend who looked like Gimli.

All the sentences in (11) are statements about the real world, but they involve the reference to properties of objects that we only accept to exist in fiction based common grounds. This however, will, most likely, make the introduction of discourse referents available across common grounds, which is why we leave cases like those in (11) for future research.[9]

With the three types of interactions between common grounds that we have discussed so far, the overall picture becomes much more complicated than the simple sandbox-style approach. The three ways of interactions are graphically illustrated in Figure 3. There are propositions that have the original common ground $CG_@$ as their source, but are imported into one or more fictional common grounds (CG_{F_1} and CG_{F_2}), like p_5 and p_9. And *vice versa*, there are also propositions that have a fictional common ground as their source, but imported in the reality-based common ground, like p_3. And moreover, some propositions, like PZ, are imported from one fictional common ground into another.

Given all these import interactions going on between the various common grounds, it is important to note again that we need to keep track of what the original source of a proposition is so that it can be known which propositions are merely

[8] This is orthogonal to the question why and how we can learn something from the *fictional* characters or stories in fiction about the real life, as famously asked by Radford's »How can we be moved by the fate of Anna Karenina?« (Radford 1975). For a formal semantic answer to this question, see Bauer & Beck 2014, 2021.

[9] Again, for approaches how to treat discourse referents across fiction and reality, see Maier 2017 and Semeijn 2021.

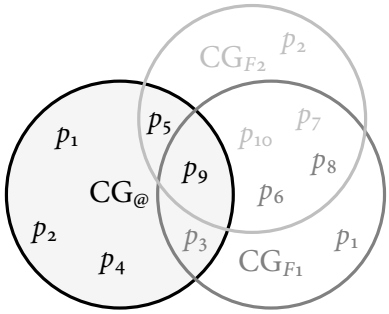


Figure 3 Three directions of import between the official common ground $CG_@$ and two fictional common ground CG_{F_1} and CF_{F_2}.

imported into a common ground, because new information that is directly added to a common ground will also have precedence over previously imported one. This *source indexing*, as we call it, is illustrated by the color-coding of the propositions in Figure 3.

3.4 Import from reality into fiction via enacting fiction

The fourth kind of import relation that we're going to discuss and which we call import via *enacting fiction* has, to our knowledge, not been discussed before in the relevant literature. The reason may be that, when we talk about fiction in modern philosophy and semantics/pragmatics – the context in which this paper is situated – we primarily deal and think about written fiction like in novels (or sometimes poetry, Bauer & Beck 2021). However, fiction can also be created by movies, a theatrical play, or an audio story.[10] What is common to these kinds of fiction is that they are created by *enacting*: What fictional characters do, how they look, and what and how they say something is (in most part) a direct consequence of the person or object (the *enacting* entity) the fictional character or object (the *enacted* entity). So when we watch, for instance, a Star Wars movie and see Han Solo doing something, like chasing a group of storm troopers down the hallways of the Death Star, the fictional character Han Solo is running that way because Harrison Ford is running in that way as part of him enacting Han Solo. Moreover, Han Solo looks the way he does and says what he does, because Harrison Ford looks the ways he does and says what he says during the enacting of the particular scenes. Speaking in terms of import: Propositions that are true of Harrison Ford as part of the enacting in the real world are imported into the fictional Star Wars common ground.

This import from reality into fiction via enacting fiction is not restricted to persons. We can also observe it, for instance, for buildings. If a certain real building

[10] More recently, video games have been discussed with respect to their fictionality, see for instance van de Mosselaer 2020 and the references therein. Video games, however, are only tentatively related to enacting fiction.

is filmed to represent a fictional building, many properties of that real building are transferred to properties of the fictional building as well. For instance, the medical drama series *The Resident* is set at a fictional hospital in Atlanta, Georgia, called the *Chastain Park Memorial Hospital*. While the show is in fact filmed in Atlanta, the building that is filmed as the hospital is not a hospital in the real world, but an art museum called the *High Museum of Art*. Analogously to when Harrison Ford enacts Han Solo, many properties of the High Museum of Art – its architecture, its colors, or its surroundings, are imported as properties of the fictional Chastain Park Memorial Hospital into the common ground for the show *The Resident*.

Enacting fiction is a very interesting topic that poses many really interesting pragmatic and philosophical puzzles. For example, which properties are transferred from the enacting entity to the enacted one and which are not? And even more puzzling, what happens when properties of the enacting object change (i.e. an actor getting older or a building is repainted)? And what happens when the enacting entity is substituted with another one? We will not be able to address these questions in this paper and think that enacting fiction deserves a lot of attention. For the purposes of this paper, we are mostly interested in the fact that such import takes place in the first place without engaging into the philosophical question of why this works and what the exact relations between enacting object and enacted object are.

This concludes our brief discussion of different kinds of imports that can happen between various common grounds. In the following, we will now turn to the development of a toolbox to model such imports.

4 Towards a dynamics of fiction

Having discussed four different kinds of fictional import and why a strict sandbox-style approach to dealing with fictional statements is not sufficient, we will develop the basics of a formal approach to modelling the *dynamics of fiction*. The core ideas of such an approach already have been laid out in the previous section: We will assume that fictional statements are ordinary assertions, but that assertions are made with respect to a specific (target) source: the specific common ground to which the asserted content shall be added. That is, we will have to multiply the common ground and relativize the assertion to specific common grounds. Once we have this in place, we can start to formalize fictional import and model the constraints and interactions that are discussed in the first part of this paper.

4.1 Multiplying the common ground

The classical notion of the common ground, as introduced by Stalnaker (1978), provided us with our starting point. Originally, the common ground between a speaker A and an addressee B contains all the propositions that they both mutually and publicly believe in.

(12) **Stalnaker-style common ground**

A proposition $p \in \mathrm{CG}^{A,B}$ if

a. A believes that p is true,
b. B believes that p is true,
c. A and B both believe that they both believe that p is true.

Ordinary assertions are then conceived as proposals to add a new proposition to the common ground. We use $\vdash$ to signify such a proposed update of the common ground with a proposition. If the assertion, i.e. the proposal, is accepted, then the proposition is just added to the common ground.

(13) **Stalnaler-style assertion**

The assertion of a proposition p of speaker A to hearer B is a proposal to add that proposition to the common ground $\mathrm{CG}^{A,B}$:

$$\textsc{assert}^{A,B}(p) = \mathrm{CG}_S \vdash p$$

If accepted:

$$\mathrm{CG}_S + p = \mathrm{CG}_S \cup \{p\} = \mathrm{CG}'_S$$

In order to model the difference between fictional statements and ordinary statements we have to multiply the notion of the common ground. Instead of having just one common ground for a given speaker and addressee, we need an unofficial common ground $\mathrm{CG}_F^{A,B}$ for each work of fiction F in addition to the official common ground for the »real« world, which we call $\mathrm{CG}_S^{A,B}$. We call different works of fiction and reality *sources* and the subscripts that distinguish the different common grounds *source indices*. A common ground with a source index is called a source-relative common ground.

(14) **Source-relative common grounds**

$\mathrm{CG}^{A,B}$ is the common ground

a. between the speaker A and hearer B relative to a source S, where
b. $S \in \{@, F_1, \ldots, F_n\}$, where
c. @ represents the index for the actual world and
d. $F_1, \ldots, F_n$ are indices for works of fiction.

As already alluded to in Section 2, we cannot employ the classical Stalnaker-style common ground as given in (12), because it is based on the notion of belief. And we do not necessarily believe the propositions of a work of fiction; in fact, we believe many propositions of a work of fiction to be false. However, we nevertheless may *accept* them as being true *with respect to the work of fiction*. That is, the source-relative common grounds given in (14) are based on the notion of acceptance, rather than belief (see Maier 2018; Sainsbury 2011); an idea that was already suggested by Stalnaker in some later work (Stalnaker 2002). Hence, a proposition is in a common ground that is relative to a source S, if both the speaker and addressee accept the proposition as being true in the source S, and if both believe that they accept this.

(15) **Acceptance-based, source-relative common ground**

A proposition $p \in \mathrm{CG}_S^{A,B}$ if

a. A accepts p as being true in S,
b. B accepts p as being true in S,
c. A and B both believe that they both accept p as being true in S.

We will omit the superscripts A, B, that indicate the discourse participants between which a common ground holds, whenever it does not lead to confusion.

With these definitions we now have in place the basic ideas of separated common grounds that can contain different propositions. For instance, the official common ground for the real world may contain propositions as in (16), whereas the (unofficial) common ground for the fictional Star Wars universe may contain propositions as in (17).

(16) $\mathrm{CG}_{@}$ = {»Cologne is in Germany«, »Sonja works on fiction«, »There are no Jedi«, »Nothing travels faster than light«, »There are no Vampires«, …}

(17) $\mathrm{CG}_{\text{Star Wars}}$ = {»There are Jedi«, »Han Solo is a good pilot«, »The Falcon travels faster than light«, »There are no Vampires«, …}

Some propositions, like »Cologne is in Germany«, that are in the official common ground, are not in the common ground for the Star Wars universe. And some propositions, like »Han Solo is a good pilot« are in $\mathrm{CG}_{\text{Star Wars}}$, but not in $\mathrm{CG}_{@}$. Some propositions, like »There are no vampires«, are in both common grounds, but this is still completely independent from each other. Finally, and crucially, the two common grounds may contain propositions that contradict each other, like »Nothing travels faster than light«, which is in $\mathrm{CG}_{@}$, and »The Falcon travels faster than light«, which is in $\mathrm{CG}_{\text{Star Wars}}$.

4.2 Relativizing assertion

Now that we have multiple common grounds, we have to adapt the Stalnaker-style notion of assertion by relativizing it to the target source in order to specify to which source-relative common ground the proposition is proposed to be added.

(18) **Source-relative assertion**

The assertion of a proposition p with respect to a source S is a proposal to add the proposition to the common ground of source S:

$$\textsc{assert}(S)(p) = \mathrm{CG}_S \vdash p$$

If accepted:

$$\mathrm{CG}_S + p = \mathrm{CG}_S \cup \{p\} = \mathrm{CG}'_S$$

Crucially, the difference between ordinary statements and fictional statements just lies in the target source to which the asserted proposition is proposed to be added. For ordinary assertions, the source is the real world (@). An example update for the ordinary assertion that Herbert Grönemeyer is a musician can be given as follows. We render propositions, as usual, as sets of worlds in which the proposition is true.

(19) **Example of an ordinary statement**

»Herbert Grönemeyer is a musician.«

$$\begin{aligned} & \textsc{assert}(@)(\{w\text{: Herbert Grönemeyer is a musician in } w\}) \\ = \quad & \mathrm{CG}_@ \vdash \{w\text{: Herbert Grönemeyer is a musician in } w\} \end{aligned}$$

If accepted:

$$\mathrm{CG}_@ \cup \{\{w\text{: Herbert Grönemeyer is a musician in } w\}\} = \mathrm{CG}'_@$$

$$= \quad \mathrm{CG}'_@ = \left\{ \begin{array}{l} \{w\text{: Cologne is in Germany in } w\}, \\ \{w\text{: Sonja works on fiction in } w\}, \\ \{w\text{: There are no Jedi in } w\}, \\ \{w\text{: Nothing travels faster than light in } w\}, \\ \{w\text{: Herbert Grönemeyer is a musician in } w\} \end{array} \right\}$$

Contrast this with the fictional statement that Luke Skywalker is a jedi. The difference between (19) and (20) is that the later assertion is made with respect to the Star Wars-source instead of the actual world.

(20) **Example of a fictional statement**

»Luke Skywalker is a jedi.«

$$\begin{aligned}
& \textsc{assert}(\text{Star Wars})(\{w\text{: Luke Skywalker is a jedi in } w\}) \\
= \quad & \text{CG}_{\text{Star Wars}} \vdash \{w\text{: Luke Skywalker is a jedi in } w\}
\end{aligned}$$

If accepted:

$$\begin{aligned}
& \text{CG}_{\text{Star Wars}} \cup \{\{w\text{: Luke Skywalker is a jedi in } w\}\} = \text{CG}'_{\text{Star Wars}} \\
= \quad & \text{CG}'_{\text{Star Wars}} = \left\{ \begin{array}{l} \{w\text{: There are Jedi in } w\}, \\ \{w\text{: Han Solo is a good pilot in } w\}, \\ \{w\text{: The Falcon travels faster than light in } w\}, \\ \{w\text{: Luke Skywalker is a jedi in } w\} \end{array} \right\}
\end{aligned}$$

That is, the only difference between the two assertions is the source to which the proposition will be added. In both cases, the asserted content is just rendered as an ordinary proposition. And from these propositions, one cannot infer whether it is fictional or not. It is just a proposition. To rephrase Maier (2018: 306), what we *do* with these propositions is what distinguishes fictional and ordinary statements and hence it is a matter of pragmatics (here: assertions) instead of semantics (here: propositions).

4.3 Source indexing

This system so far – source-relative common grounds and the source-relative version of assertion – would give us the sandbox-style approach: separate common grounds to which propositions are independently added via targeted assertions. In order to properly enable import (and export) while respecting the constraints that we briefly addressed before, we need to keep track of from where a proposition is imported. That is, we must label propositions with respect to where they originated from. We will achieve this by source-indexing propositions when they are in a common ground. That is, instead of rendering propositions in common grounds as set of worlds as usual, we expand them into a pair of a source (= the origin of the proposition) and a proposition, once they are added to a common ground.

(21) $p \rightarrow \langle S, p \rangle$

We do not change the propositions across the board in this way. Hence, a (declarative) sentence by itself, however, still denotes an ordinary proposition and compositional semantics (e.g. for propositional attitude predication) can remain completely unchanged. Propositions will only become source-indexed once they are originally added to a common ground via assertion. Therefore, source-indexing of propositions becomes an essential part of assertions. We build it into the definition of assertion as follows:

(22) **Assertion with source indexing**

$\textsc{assert}(S)(p) = \text{CG}_S \vdash \langle S, p \rangle$

That is, an assertion of a proposition p that targets a source S is now a proposal to update a common ground not just with the proposition, but with the propositions source-indexed to source S. For instance, when we assert that Luke Skywalker is a jedi with respect to the Star Wars universe as the source, we propose that $\text{CG}_{\text{Star Wars}}$ is updated with the proposition that Luke Skywalker is a jedi together with the source index *Star Wars*.

(23) $\quad \textsc{assert}(\text{Star Wars})(\{w\text{: Luke Skywalker is a jedi in } w\})$
$\quad = \quad \text{CG}_{\text{Star Wars}} \vdash \langle \text{Star Wars}, \{w\text{: Luke Skywalker is a jedi in } w\}\rangle$

If this proposal is accepted, the source-indexed proposition from (23) is added to $\text{CG}_{\text{Star Wars}}$. The updated common ground then may look as follows (with all the propositions carrying a source index):

(24) $$\text{CG}_{\text{Star Wars}} = \left\{ \begin{array}{l} \langle \text{Star Wars}, \{w\text{: There are Jedi in } w\}\rangle, \\ \langle \text{Star Wars}, \{w\text{: Han Solo is a good pilot in } w\}\rangle, \\ \langle \text{Star Wars}, \{w\text{: The Falcon travels faster than light in } w\}\rangle, \\ \langle \text{Star Wars}, \{w\text{: Luke Skywalker is a jedi in } w\}\rangle \end{array} \right\}$$

4.4 Importing propositions

Against the definitions that we just developed, we can now define the IMPORT operation that imports a proposition p from a source S common ground into the common ground of a target source T.

(25) $\quad \text{If } \langle S, p\rangle \in CG_S, \text{ then } \textsc{import}(S)(T)(p) = \text{CG}_T + \langle S, p\rangle = CG'_T$

What is crucial about this operation, is that it carries over the original source of the proposition into the target common ground. That is, IMPORT will lead to a common ground in which not all propositions share the same source index. The following example illustrates how the proposition that humans need oxygen is imported from the official common ground $\text{CG}_@$ into the common ground of the Star Wars universe. After the import, that proposition is added to $CG_{\text{Star Wars}}$ while retaining into source index »@«.

(26) Assume:
$\quad \text{CG}_@ = \{\ldots, \langle @, \{w\text{: humans need oxygen in } w\}\rangle, \ldots\}$
Then:
$\quad \textsc{import}(@)(\text{Star Wars})\{w\text{: humans need oxygen in } w\})$
$= \quad CG_{\text{Star Wars}} + \langle @, \{w\text{: humans need oxygen in } w\}\rangle = \text{CG}'_{\text{Star Wars}}$

$$= \left\{ \begin{array}{l} \langle \text{Star Wars}, \{w\text{: There are Jedi in } w\}\rangle, \\ \langle \text{Star Wars}, \{w\text{: Han Solo is a good pilot in } w\}\rangle, \\ \langle \text{Star Wars}, \{w\text{: The Falcon travels faster than light in } w\}\rangle, \\ \langle @, \{w\text{: Humans need oxygen in } w\}\rangle, \end{array} \right\}$$

4.5 Semantic constraint on importing propositions

The IMPORT operation is, at its core, a *pragmatic operation*. It does not just apply blindly to propositions, just like propositions are not just added to a common ground. That is, just like ASSERT, IMPORT is an intentional, pragmatic act, even if it does not necessarily correspond to a *speech* act but rather has to be understood as a pragmatic process of inferencing and knowledge transfer. This means, that propositions are only imported if it makes sense to do so. For instance, it is part of our knowledge about the »space fantasy« genre, travelling through space in these stories can happen faster than light. Hence, a proposition like »Nothing travels faster than light« will not be imported into the common ground of a work of fiction that belongs to that genre of fiction, even if there is no information in that common ground yet that would contradict that proposition.

However, besides such pragmatic considerations, there is also a strong *semantic constraint* on importing propositions: The IMPORT operation is *semantically blocked* from being imported into a target common ground, if the proposition to be imported contradicts the information in the target common ground *that is genuine to that common ground*; by this, we mean the information as expressed by all the propositions that have been originally added to that common ground (by assertion) and that have not been imported. We call this content the original base of a common ground.

(27) **Original base**

For every common ground CG_S, the original base of that common ground $\downarrow_{\bullet} CG_S$ is the subset of source-indexed propositions of CG_S that are source-indexed to S.

$$\downarrow_{\bullet} CG_S = \{\langle \sigma, p\rangle\text{: } \sigma = S \text{ and } \langle \sigma, p\rangle \in CG_S\}$$

Let us consider the following Star Wars-common ground that contains both propositions that are indexed for the Star Wars source alongside one proposition that is source-indexed for the actual world.

(28) $\mathrm{CG}_{\text{Star Wars}} = \left\{ \begin{array}{l} \langle \text{Star Wars}, \{w\text{: There are Jedi in } w\}\rangle, \\ \langle \text{Star Wars}, \{w\text{: Han Solo is a good pilot in } w\}\rangle, \\ \langle \text{Star Wars}, \{w\text{: The Falcon travels faster than light in } w\}\rangle, \\ \langle @, \{w\text{: Humans need oxygen in } w\}\rangle \end{array} \right\}$

For this common ground, we get its original base by collecting just the subset of propositions that carry the Star Wars source-index. Or to put it the other way round: We throw out all propositions that carry a different source index, i.e. all the non-original propositions. In this case, this amounts to deleting the proposition that humans need oxygen (which was imported from the @-common ground) while keeping all the others.

(29) $\downarrow_{\bullet}\mathrm{CG}_{\text{Star Wars}} = \left\{ \begin{array}{l} \langle \text{Star Wars}, \{w\text{: There are Jedi in } w\}\rangle, \\ \langle \text{Star Wars}, \{w\text{: Han Solo is a good pilot in } w\}\rangle, \\ \langle \text{Star Wars}, \{w\text{: The Falcon travels faster than light in } w\}\rangle, \\ \sout{\langle @, \{w\text{: Humans need oxygen in } w\}\rangle} \end{array} \right\}$

In order to formulate the semantic constraint (on the IMPORT operation) that the imported content must be compatible with the original base of the target common ground, we need to adapt another notion to our system first: the context set. In Stalnaker's (1973; 1978) work, the context set represents the information state that is encoded by the common ground. The context set corresponds to the set of worlds in which all propositions in the common ground are true or, to phrase it slightly differently, the set of worlds that is compatible with all the propositions in the common ground.[11] The context set for a common ground in the original Stalnaker-style is given simply by the intersection of all the propositions in the common ground.

(30) **Stalnaker-style context set**

For every common ground CG, the context set CS for that common ground is given as follows:

$\mathrm{CS}(\mathrm{CG}) = \bigcap p$, for all $p \in CG$

However, since our source-relative common grounds do not contain simple propositions anymore, we have to adapt the definition in (30) slightly in order to be able to intersect the propositions without the source index. This can be done as follows:

(31) **Context sets for source-indexed common grounds**

For every common ground CG_S, the context set $\mathrm{CS}(\mathrm{CG}_S)$ for that common ground is given as follows:

$\mathrm{CS}(\mathrm{CG}_S) = \bigcap p$, for all p such that $\langle \sigma, p\rangle \in \mathrm{CG}_S$ for all sources σ

[11] In a sense, the propositions in the common ground act as a filter on the worlds that we can take as viable candidates to correspond to the real word.

With the help of this adapted definition of the context set, we can now formulate the semantic condition on IMPORTANT. Basically, a proposition can only be imported into a target common ground if it is compatible with the original base of that common ground. This means that the intersection of the proposition in question with the context set of the original base of the target common ground must not be empty.

(32) **The semantic import condition**

$\textsc{import}(S)(T)(p) = \mathrm{CG}_T + \langle S, p\rangle$ only if $p \cap \mathrm{CS}(\downarrow\!\mathrm{CG}_T) \neq \varnothing$

This prohibits, for instance, the import of the proposition that nothing travels faster than light from the official common ground into the Star Wars common ground if the latter contains the proposition that the Falcon travels faster than light.

4.6 All assertions are source-sensitive strong assertions

But what if we have imported a proposition into a common ground when it was semantically possible to import it and then we later want to add a proposition, via assertion, that contradicts the imported proposition? Will this addition then lead to an absurd information state because the resulting common ground will have an empty context set?

This question leads us to another semantic rule that governs the information flow in these dynamics of fiction. As we already alluded to earlier in this paper, when a new proposition is asserted (not imported!) and is accepted and thus added to its target common ground, then all imported propositions that are incompatible with the newly incoming proposition are *removed* from the common ground before the new one is added. Asserted information always trumps imported information. This is not just the case when the asserted content was added before the import takes place, but crucially also if the assertion comes after an incompatible proposition has already been added.

In this sense, every assertion is a *strong assertion* (in the spirit of McCready 2009) *with respect to imported content*: Before an asserted proposition is added to a common ground, it is checked if there are contradictory imported propositions. If there are none, the proposition is just added as usual. If there are some, all contradictory, imported propositions are removed first before the proposition is added in a second step.

In order to define this, we define the set K of propositions that are incompatible with the proposition we want to add via assertion. This is done as below in (33). Then we check if this set contains any propositions. If it does not, we can add the asserted proposition as usual as in (33-i). However, if the set K is not empty and does contain

propositions – that are by definition of K incompatible with the propositions that should be added – then we first remove these propositions from the target common ground. This is done by taking the complement set of the target common ground CG_S and K, written $CG_S \backslash K$ (= the set that contains all elements of CG_S except for those that are also an element of K) and adding the new proposition to that set. This is defined in (33-ii).

(33) **Source-sensitive strong assertion**

$\textsc{assert}(S)(p) = CG_S \vdash p$

If accepted:

Let K be the set of propositions q such that $\langle \sigma, q \rangle \in CG_S$ for any $\sigma \neq S$ and $p \cap q = \varnothing$.

(i) If $= \varnothing$, then: $CG_S + p = CG_S \cup \{p\} = CG'_S$

(ii) If $\neq \varnothing$, then: $CG_S \backslash K + p = CG_S \backslash K \cup \{p\} = CG'_S$

With these definitions, we now have the basic ingredients in place for a framework of the dynamics of fiction. There are different common grounds for the real world and for each work of fiction. Hence, we can accept propositions as being true with respect to different sources. Furthermore, propositions in common grounds are indexed for their source and assertions are made relative to a common ground into which the propositional content is added and source-indexed for. Propositions can be imported into a common ground from other common grounds, but they keep their original source index. Import is semantically blocked, if the original base of that common ground contains information that is incompatible with the proposition that should be imported. And finally, content that is added via assertion deletes incompatible content that was imported before.

5 Pragmatic heuristics for fictional import

Having laid out the basic principles for a dynamics of fiction, we only addressed rather hard rules on the import of propositions. However, besides the mechanisms of the semantic import condition and source-relative strong assertions, what governs and regulates fictional import is not completely determined by fixed rules. What gets imported between the various common grounds is a cognitive, pragmatics process that, after all, is driven more by probabilities and Bayesian reasoning than by strict rules. However, we still believe that the system for the dynamics of fiction, as we have sketched it in this paper, can be used to formulate pragmatic principles that guide and narrow down the decisions of what to import. Again, these are to be considered more like heuristics or guidelines instead of fixed rules. We also think there are much more of such heuristics than we can discuss in this paper, hence we will briefly sketch the following three import heuristics:

(34) **Pragmatic heuristics for fictional import**

a. Genre-based import
b. Learning from fiction
c. Enacting-based import

We should add that the principles have to be tested empirically, even though we think that these heuristics have a lot of intuitive appeal, and we are pretty sure that they have some psychological reality insofar as that they correspond to what we actually do when we are transferring information to and from works of fiction. But at this stage and for the purposes of this paper, the three heuristics that we are going to sketch are just part of our formal model and hypotheses for what we think are plausible candidates for psychological realistic heuristics.

5.1 Genre-based import

Let us start with the observation that we made in Section 3.2: If we encounter a new work of fiction, we usually do not start with a totally empty common ground that we then successfully build from scratch. Instead, we are inclined to import a lot of propositions, not just from reality (»Humans need oxygen«) or from other works of fiction (»Spaceships can travel faster than light« or »Vampires cannot live in daylight«). However, such imports do not happen randomly but are heavily guided by our knowledge about the particular genre to which the work of fiction belongs.[12] For a story that belongs to the »vampire genre«, we may import vampire-related propositions like »Vampires are undead«, »Vampires need blood«, »Vampires cannot live in daylight« into the new common ground, whereas for a story that belongs to the »space-fantasy genre«, we may import space-related propositions like »Space ships can travel faster than light«, »There are laser guns«, »There is life on other planets«. Crucially, for the vampire genre, we may import a proposition from the official common ground like »Nothing travels faster than light« that we do *not* want to import into a space-fantasy story. That is, our knowledge about a specific knowledge is the guiding principle for such imports when we start a new common ground for a work of fiction.

In order to provide a heuristic for such genre-based import, let us first define the generalized genre knowledge which is the pool of stereotypical propositions that make-up what is typical about a genre.

[12] Strictly speaking, a likewise important and maybe even bigger factor is our belief about what genre the work of fiction belongs to, which is something that we may be misguided by, for instance when we judge a book only by its cover.

(35) **Generalized genre knowledge**

If there are n different common grounds $\mathrm{CG}_{g1}, \ldots, \mathrm{CG}_{gn}$ that belong to a genre g, then the generalized genre knowledge $\mathrm{GK}(g)$ for that genre g is given as follows:

For all proposition p and sources σ: If $\langle \sigma, p \rangle$ is in more than $\frac{3}{4} \times n$ common grounds, then $\langle \sigma, p \rangle \in \mathrm{GK}(g)$.

Of course, this is oversimplistic, and not just by a bit. For starters, we simply picked an arbitrary threshold for the proportions of common grounds that belong to the genre in which a proposition must be part of in order to become part of the generalized genre knowledge. And of course, $\frac{3}{4}$ is just a random number. However, we think it is certainly true that a proposition does not have to be part of *every* genre-related common ground. This harkens back to what we alluded to in Section 3.2: It can well be the case that there is no common ground for a vampires-related work of fiction in which all our generalized genre knowledge about vampires is not true. This is achieved by setting the proportion to be lower than 1. Another short-coming of how we defined generalized genre knowledge is that it treats every genre-related common ground equally. But this, certainly, is also not how we realistically derive generalized genre knowledge since some works of fiction may be much more canonical and influential than others. Therefore, it would be more appropriate to somehow weigh the importance of the different common grounds. However, we leave this for further research at this point.[13]

With the notion of generalized genre knowledge, we can now define the genre-based import heuristics that simply imports the genre-specific knowledge when we open-up a new common ground for a work of fiction.

[13] Even though we do not want to commit to any strategy of how to do this properly, one possible way to do this may look as follows:

(i) **Weighted generalized genre knowledge**

Let there be n different common grounds $\mathrm{CG}_{g1}, \ldots, \mathrm{CG}_{gn}$ that belong to a genre g. And let *Can* be a function, that assigns a common ground of a genre a grade of canonicity for that genre:

$$\mathit{Can}(g)(\mathrm{CG}_F) \mapsto [0; N]$$

then the generalized genre knowledge $\mathrm{GK}(g)$ for that genre g is given as follows:

For all proposition p, arbitrary σ, and all CG, such that $\langle \sigma, p \rangle \in \mathrm{CG}$: If

$$\text{if} \quad \frac{\sum \mathit{Can}(g)(\mathrm{CG})}{n} > 0.75 \quad \text{then } \langle \sigma, p \rangle \in \mathrm{GK}(g)$$

When all canonicity grades were set to 1, this would amount to the same as before. But when certain canonicity values can be set higher (or lower), this would model the fact that certain works are more canonical or more authoritative for a given genre.

(36) **Genre-based import**

If there is a genre g and there is new CG_S of that genre g, then

$\textsc{import}(\sigma)(S)(p)$ for all $\langle \sigma, p \rangle \in \mathrm{GK}(g)$

What we think does the important work here and in the definition of the generalized genre knowledge is the notion of *genre*. We do not want to employ here any serious literary study of what a genre may be. Instead, we see it as a tool that we use to classify and group together certain kinds of works by their content-derived similarities. And more importantly, we do not think that there is a predefined level of fine-grainedness of how a genre can be defined. In principle, it is always possible to further subdivided a genre in more specific genres and even more specific knowledge of what is typically true. This will then change what is part of the generalized genre knowledge. This directly falls out of the definition: If we have three works in which vampires in fact do love garlic and we zoom in on them and understand them as a genre, then the generalized genre knowledge about *that genre* will contain the proposition that vampires like garlic because that proposition now belongs to more than $\frac{3}{4}$ of the common grounds in *that genre*, even if that proposition will not be part of the generalized genre knowledge of bigger, less-specific vampires-genre in general. Or when we go from the genre of »space fantasy« to the genre of »Star Wars space fantasy« to the genre »original trilogy Star Wars space fantasy«, this will, at each step, change the propositions that will be imported when we start a new common ground for a work of fiction. When we encounter a new work of fiction in the »James Bond universe« we may import propositions like »James Bond likes Martinis« or »Q invests crazy stuff« because these belong to our genre-knowledge of these stories. But when we encounter a work of fiction and only know that it belongs to the more general genre of »spy stories«, we will not import these propositions. That is, the more specific we get with our knowledge about a genre (i.e. the more specific the genre is), the more specific our generalized genre knowledge will become.

5.2 Learning from fiction

Even though the main function of works of fiction may not be to inform us about facts in the real world (some works heavily lean into that function though), we nevertheless regularly learn facts about the real world from fiction. Or at least we are inclined to draw information from a work of fiction and assume that it also holds for the real world. When we read, in a fictional story, say, that London has almost 9 million inhabitants or that its original Roman name was *Londinium*, then we certainly are inclined to treat that as information about the real world.

It is not obviously clear what governs such learning-from-fiction inferences as there seem to be *a lot* of factors in play here. One aspect, that we think is crucial though, lies in the different roles that different propositions play in a work of fiction.

Some propositions are highly relevant for the »plot« of the fiction, whereas others are more »scene-setting« and background-related. Our hypothesis is that this has influence on what we are inclined to import into the official common ground and what we prefer to accept only for the purposes of the fictional story.

(37) **Import of background propositions**

a. The more a proposition is scene-setting and background-related, the more likely we are to import it into the official common ground.

b. The more a proposition is relevant for the plot, the less likely we are to import it into the official common ground.

For instance, if we read, in a spy story, that the spy has to meet another agent at Paddington train station in London on platform 12 and that the spy crosses Praed Street to enter the station, then we are very likely to import the propositions like »London has a train station called *Paddington*«, »Paddington station has at least 12 platforms« and »Paddington station is at Praed Street« into the official common ground. However, if we continue to read that the spy discovers a secret door under track 6 that leads to a secret underground lab where weird medical experiments on humans take place – then we are not very inclined to import propositions from that into the official common ground.

In order to define the heuristics for learning from fiction, we simply collect background-related scene-setting propositions in a work of fiction and import them into the official common ground, if they »thematically fit« propositions there.

(38) **Learning from fiction**

Let $\mathrm{BG}_S \subset \mathrm{CG}_S$ is the set of background-related scene-setting propositions in a work of fiction S. Then:

If $\langle S, p\rangle \in \mathrm{BG}_S$, then $\textsc{import}(S)(@)(p)$ if p »thematically fits« propositions in $\mathrm{CG}_@$.

Admittedly, this definition is rather hand-wavy because determining what »being background-related« or »being scene-setting« actually means is quite far from being a trivial task. Theories like RST (Mann & Thompson 1988) or SDRT (Asher & Lascarides 2003) may help to develop a proper approach to what that means. But for our purposes, we just assume that we know what that means. In addition, we need some kind of »counterpart« story here, because in the example given above we only are inclined to import all the propositions about Paddington station, because the story is set in London and there is a London in the real world and hence we presuppose (not necessarily in the technical sense) that the London in the fictional story »is« the real London. Again, we have to remain vague here and use the notion

of a »thematical fit« in our definition. The idea is that the propositions in the spy story have the city London as their topic and since there is a city London in the real world, the background-propositions thematically fit all the propositions that make-up the London topic.

5.3 Enacting-based import and double access

The last heuristic for fictional import which we are going to discuss in this paper (even though we are sure that there are many more) concerns the import that we make when we encounter a work of enacted fiction. One aspect that is special about fiction that is created by enacting is that it is always possible to »see through« the enacted fiction and access not just the enacted entities but also the enacting ones. This is what we call the double access to enacting fiction. When we watch Star Wars: A New Hope, we can see Han Solo, the enacted person, running. But at the same time, we can see through that enacting and see Harrison Ford, the enacting person, running. When we report about watching a movie, both utterances about the enacting person and the enacted person are true:

(39) a. When I was watching Star Wars yesterday, I saw Han Solo running.
b. When I was watching Star Wars yesterday, I saw Harrison Ford running.

As said before in Section 3.4, this is not just true for actors, but also, for instance, for buildings that »enact« buildings in a movie. And the same may hold for theatrical or audio plays.

In order to provide a heuristic for enacting fiction, we would probably need discourse referents to model this properly. However, for the current purposes it may suffice to stick to just proposition to sketch the heuristics.

(40) **Enacting-based import**

For every property P and entities a and c: If a enacts c in fiction S and $P(a)$ is part of the (en)acting, then:

$\langle @, P(a)\rangle \in \mathrm{CG}_{@}$ and $\langle S, P(c)\rangle \in \mathrm{CG}_{S}$.

In this definition, the crucial aspect that does the major work and hard question that we brushed over lies in the property of »being part of the (en)acting«. Some cases are obvious: If Harrison Ford runs and chases after the other actors that enact the storm troopers, he thereby enacts Han Solo's chase after the storm troopers. And in movies, the way a person looks is also part of the enacting in most cases. That is, properties like Harrison Ford's height are also imported as properties of Han Solo. But this is not always the case. For instance, Elijah Wood's height is not imported as Frodo's height in the Lord of the Rings movies. In addition, there are media and genre specific differences here at play of what counts as enacting. In many

modern theatrical plays but also in some more »artsy« movies, many properties of the enacting persons, like what they wear, their skin-color or gender, are not imported as properties of the enacted person. We cannot say much about this at this point but, except that if, as in (40), the property counts as part of the enacting, the propositions that the enacted person has that property becomes part of the common ground of the work of fiction, while, at the same time, the proposition that the enacting person has that property becomes part of the official common ground.

6 Summary

The sandbox-approach to deal with fiction is too simplistic. There is a lot of import going on between the various common grounds. We provided a simple framework for such »dynamics of fiction« by: multiplying the idea of the common ground, relativizing assertions defining an import-function with a semantic compatibility condition, defining assertions as strong assertions with respect to imported content. Within such a system, it is possible to model the various import phenomena. It also seems possible to define pragmatic heuristics that govern the import of propositions. We sketched three heuristics in this paper: genre-based import, learning from fiction, and enacting-based import. These heuristics and their psychological reality are the subject for further research.

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