INTERACTIVE FICTIONAL CHARACTERS AS CAUSALLY ACTIVE ABSTRACT ARTIFACTS

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Chapter 1: Introduction

Abstract

Abstract artifacts are entities without spatial locations brought into existence from intentional creative acts. Examples include fictional characters, musical works, stories, or languages. I argue that abstract artifacts can be causally active. I will demonstrate the validity of this claim with a case study: interactive fictional characters, or IFCs, which include non-playable characters and playable characters from tabletop roleplaying games like Dungeons and Dragons (D&D). Any theories about the nature of abstract artifacts must include this type of interactive entity. This paper will present the various arguments regarding whether abstract artifacts have causal capabilities and determine if these arguments apply to IFCs. Any theory that considers how an abstract artifact may or may not be causally active must apply to all abstract artifacts. Ultimately, I argue that not all abstract artifacts can be causally inert because such entities as IFCs prove that there is a case for some causal activity.

Background

An artifact is an object made intentionally. Unlike a naturally occurring object, these entities must be the result of human activity. Examples include tables, hammers, statues, etc. Objects like animals and stars, which are not human-made, are not artifacts. Unintended by-products such as the wood shavings that result from crafting a table are also not artifacts because they are not intentionally produced. It is often assumed that concrete artifacts are intentionally made in order to accomplish some purpose. These artifacts may be made for a specific purpose, which is often an essential part of the nature of the creation. There is controversy about the existence of artifacts, as well as what they are, but for the sake of this project, I will consider artifacts to exist as intentionally made objects.

Abstract objects, abstracta, are entities that are not material things. Examples include numbers, sets, democracy, relationships, etc. Unlike concrete objects such as rocks and trees, these entities are thought to be strictly immaterial with no location in space. Concrete objects seem to exist given that they are located physically in space. Some argue that abstracta do not exist as part of our ontology because they lack any concrete locations. For the sake of this project, however, I simply take abstracta to exist as any non-concrete entity[1].

Some entities are both an artifact and abstract: musical works, stories, languages, or fictional characters. Abstract artifacts are non-concrete entities brought into existence from intentional creative acts. Entities of this kind are somewhat mysterious because they are created but not physical. Created abstracta seem to go from not existing, to existing, due to the intentions and mental activities of individuals where the product of these mental activities are abstract rather than concrete. The process of creating or modifying a concrete artifact is far more simple. For instance, we can easily understand how a sculptor might carve stone into a statue. When an author writes a story or a musician composes a song, there is no agreement of what these processes entail, and there is no understanding of what type of entity these creators even produce.

Interactive fictional characters

Interactive fictional characters, or IFCs, are entities that are very similar to another type of abstract artifacts: traditional fictional characters, or TFCs. TFCs are typical fictional characters, such as those found in novels. TFCs are individuals whose characteristics and exploits are written about in works of fiction. A TFC is created by an intentioned author who decides what her character is supposed to be like, documents these details, and canonizes the character through the publication of the work of fiction. For example, when J.D. Salinger wrote

[1] See Szabó (2003) for additional information.

The Catcher in the Rye, he created the fictional character, Holden Caulfield. Readers then passively experience Holden Caulfield as they read the story. Holden could be featured in movies, fanfiction, or even the imaginations of readers. However, the TFC still exists as a premeditated creation of J.D. Salinger to be experienced passively.

IFCs and TFCs are distinct in how they each operate. Consider Princess Reverie Nix, the human barbarian from my campaign of Dungeons and Dragons. The characteristics of Reverie are improvised, sometimes random, and constantly changing. At the start of a D&D game, to create their IFC, the player must imagine a backstory for their playable character and roll dice to determine what skills this character might have. To play the game, the players pretend to be their characters as they navigate a story, rolling dice to determine the success of their characters' actions. For example, if Reverie wants to hit an enemy with her axe, I roll the dice, and if I roll high enough, Reverie is successful in hitting the target. The IFC now has a new property, namely, having hit the enemy; it gained a property that it did not possess before. IFCs are meant to constantly change as players experience them.

Roleplayed characters, like Reverie, show key distinctions when compared to abstract artifacts that do not involve any interaction. Without interaction, abstract artifacts like Holden Caulfield typically have a more static existence. Their properties are often predefined and do not undergo significant changes over time. For example, Holden Caulfield has the property of 'being expelled from prep school' because it was established in the accompanying published novel. On the other hand, in interactive contexts, artifacts have a dynamic and evolving existence. Their attributes, characteristics, and even existences may change based on participants' actions and the improvised decisions of players. As a result, the meaning and significance of the artifacts' properties are influenced by the subjective experiences and choices of the players. These

properties vary based on the diverse influences of the players interacting with the artifact. Reverie acquires the property of 'killing a wraith' because of a culmination of player choices, random dice rolls, and adherence to the rules of D&D. Importantly, Reverie acquires these properties as a game is being played.

In addition to the nature of interaction, more key differences are found in how interactive and non-interactive artifacts exist temporally. Non-interactive artifacts are somewhat timeless, existing without modification so long as they are documented or remembered. Premeditated attributes are defined by the creator, and the properties of the abstract typically do not change over time. Holden Caulfield smokes cigarettes because the published books establish this as a fact about the artifact in question. In contrast, IFCs are dynamic and change over time as they exist. They evolve and adapt as the story is told by the players. Notably, their existence is tied to the ongoing interactions of participants. Interactions contribute to an emergent narrative, where the artifact's story unfolds based on participant choices.

Realism about fictional entities

In considering how fictional entities behave, it is important to note that there is controversy surrounding whether there even are such entities. Fictional entities include fictional characters, fictional objects, and fictional places. These entities are part of a fiction and are not located in the real world.[2] These entities lack existence in the way that ordinary concrete objects exist; this observation is called the nonexistence datum[3]. For this reason, many believe that there is no such thing as fictional entities. These fictional anti-realists will argue that the nonexistence

[2] This is true even when real entities are included in works of fiction. For example, when Arthur Conan Doyle uses the city of London in his fictional stories about Sherlock Holmes. Some believe that the London in these stories should be classified as a fictional entity separate from the real London. Intuitively, it seems that fictional entities seem to constitute a unique category of entity. This theory is supported by Bonomi (2008) and Motoarca (2014).

[3] Kroon, Fred and Alberto Voltolini (2023).

datum is ontologically significant, and saying that fictional entities do not exist means that there is no such thing as fictional entities in our ontology in general. When we talk about fictional entities, antirealists will say that we engage in some kind of assumed *pretense* that there are fictional things for various purposes, but we know them to be nonexistent. Metaphysician Takashi Yagisawa, for example, is one such antirealist. He argues that our pre-theoretical intuition leads us to believe that fictional individuals do not actually exist, but instead, exist only within the world of the relevant fiction (Yagisawa 2001).

On the other side of the debate, realists about fictional characters argue that fictional entities are real but abstract, and if the fictional objects are abstract, they need not have the same types of qualities as regular objects. In this paper, I do not wish to directly defend realism about fictional characters or enter the debate about fictional discourse more generally. Importantly, I will rely on some realist assumptions about fictional entities, namely, that fictional entities exist in some way. I will argue that fictional entities have causal powers, and in order to have these capabilities, the entities in question must exist. In fact, my contention that fictional entities have causal powers is one motivating argument for realism. Many realist theories either do not include causal arguments or argue that fictional entities are real but not causally active. In fact, the presumed lack of causal capabilities is a problem for realists about fictional entities. I contend that this should not be a problem because abstract artifacts do participate in causal activity.

Causal activity and abstracta

Abstract artifacts are mysterious so the ontological status of these entities remains controversial. The Eleatic criterion, or causal criterion, is a way to clarify what entities should be admitted into our ontology. The requirement is that the entity has causal power.

It seems clear how a soccer ball is created, how it might change, and how it is causally active. We can destroy the soccer ball or alter its shape. We can kick a soccer ball, causing it to physically move locations. A soccer ball can cause a water bottle to be knocked over. Concrete artifacts are clearly capable of being affected and being efficacious. Abstract artifacts, like songs, seem to exist in a different way than concrete artifacts - like statues, paintings, or soccer balls. Ontological problems are raised about abstract artifacts in light of their non-physical, and therefore, controversial nature. With this controversy, some argue that abstract artifacts do not have causal powers, and according to the Eleatic criterion, they would not seem to exist at all. There are many ways to consider this problem, but I will argue that abstract artifacts (like IFCs) do have causal powers, and therefore, do not violate the Eleatic criterion.

Other realist theories[4] offer options for admitting abstract artifacts into our ontology, but this project focuses on causal activity. Causality is difficult to define, which leads to some problems in characterizing abstracta as causally inefficacious or not. Causation is a certain relation among events, where entities may participate in these events. There is no general agreement on what constitutes a sufficient condition for being causally active, however for the sake of this project, I take any entity to be causally active if it is capable of being causally affected or causally efficacious (they cause things to happen).

Abstract objects, at first glance, may seem to not affect the physical world. Compare a concrete soccer ball to an imagined soccer ball. While we can manifest mental images of an imagined soccer ball, this abstract thought does not exert any causal power on the world. One problem for abstracta being causally active is the fact that they are non-physical. While more complex than an imagined soccer ball, abstract artifacts like stories, songs, or characters run into

[4] See Thomasson's easy ontology (1999, 2009, 2015), Korman's conservatism (2015), or Dodd's platonism and descriptivism (2000, 2012).

trouble given the fact that they are not concrete. Abstract artifacts may have intimate ties to concrete objects, but I consider them to be separate entities. For example, we can destroy a copy of a novel without destroying the story itself. This seems to indicate that there are 2 separate entities at play, one of which is abstract. One might argue that any causal activity must be done to the concrete objects in which the abstract artifacts are tied to. However, exemplified by the abstract story will persist despite the destruction of a concrete version of it, we do not seem to identify abstract artifacts as the concrete objects they might have connections to.

Still, the orthodox view is that any abstract object is causally inert. This includes abstract artifacts. For the philosophers that believe that abstract artifacts are causally inert[5], it is generally assumed that abstract artifacts do not participate in causal activity. For antirealists, abstract artifacts, which are not part of our ontology, are clearly incapable of being causally affected or efficacious. With this kind of a skeptical view of abstract artifacts, any non-existent entity would fail to interact with other entities that do fit into our ontology. Some realists, alongside antirealists, still hold that abstracta are causally inert due to them being non-physical. These types of views hold that abstracta exist, but as non-causal entities[6].

Despite the assumption that abstract artifacts are causally inert, there are cases that indicate the contrary. It seems that abstract artifacts can be affected. In fact, it seems that abstracta are causal by virtue of being artifacts. Unlike other abstract entities like numbers, abstract artifacts are created by people. Creation can be viewed as causing something to exist, which might count as causal activity.

Second, abstract artifacts seem to be causally efficacious. For example, an "effect" of John Steinbeck's 1939 novel *Grapes of Wrath* was political reform to labor laws for migrant

[5] See Friedman (2005), van Inwagen (2007), or Juvshik (2018).
[6] See Thomasson (1999) or Dodd (2000).

camps. Upon reading the novel, First Lady Eleanor Roosevelt called for congressional hearings that resulted in political change. Intuitively, abstract artifacts seem to be caused and have effects. We cause films, poems, and novels to exist; and a film may cause people to riot, a poem may invoke emotions, or a novel may inspire political change. TFCs and IFCs alike seem to have causal capabilities of this kind.

This reasoning, while intuitive, is not infallible. Many argue that it is wrong to assume that the abstract artifacts themselves have any causes or effects. *Grapes of Wrath,* for example, is an abstract artifact with no spatial location. Some might argue that it is more likely that the copies of *Grapes of Wrath,* which are located in space, did the bulk of the causal work. If this were the case, the abstract story would be causally inert, meaning that it can neither cause anything to happen nor be affected by anything. In this paper, I will be arguing against this reliance on concrete materials to source causal activity of abstract artifacts.

Introducing the argument for causal activity

If abstract artifacts can be causally active, a question arises: how might causal interactions work? In the following sections, I will review several theories considering abstract artifacts as causal entities. Most existing theories do not seem to apply to both TFCs and IFCs because they fail to account for the specific ways that IFCs can change. As pre-existing theories fall short when it comes to including dynamic artifacts, my objective is to introduce an inclusive theory that accounts for all types of abstract artifacts.

Simon J. Evnine's hylomorphist account offers a promising route to developing such a theory (Evnine 2016). Evnine claims that an abstract artifact exists as an arrangement of intentioned properties, just as a concrete artifact exists as an arrangement of particular chosen materials. The process, broadly, is that artifacts are made out of matter (concrete or abstract) by

an agent with the intention to make an object of a given kind. A fictional character, for example, has a set of properties as its matter, selected by the creative intentions of the author. The identity of an abstract artifact like a fictional character, under this view, is not fixed by its matter (the set of properties), but instead, the creative intentions of the creator. This model makes it so the authors of abstract artifacts are capable of modifying the properties of their creations at any point.

I model my theory using Evnine's hylomorphist account of abstract artifacts. His account provides the framework for my argument for the causal activity of abstracta. With his view, creators are capable of producing and modifying the properties of their artifacts based on their intentions. Entities with many parts, according to Evnine, should be understood through what links these parts together, essentially, with how they come to exist and what their functions are. As a result, one such intention of a creator is to fix their artifact with a certain kind of function. **My argument relies on two of Evnine's ideas: that fictional characters are their properties and that abstract artifacts gain membership to be a certain kind of entity based on their function.** These two concepts inspire what I will call *the causal function argument.* The argument states that artifacts like IFCs can be associated with the function of being part of a game where these entities get their properties from the game itself. I argue that IFCs are capable of and intended for causal interaction through gameplay. If the causal function argument is correct, the case of IFCs shows that at least some abstract artifacts are causally active. Subsequently, some abstract artifacts require causal activity to exist and function as intended.

In the sections to follow, and before I offer the causal function argument, I question how causal interactions may work for abstract artifacts by reviewing several existing theories. First, I consider how abstract artifacts come into existence by reviewing Nurbay Irmak's theory that

creation is a non-causal activity. Next, I turn to David Friedell to review how abstract artworks might change overtime. Ultimately, I will show that these theories do not seem to apply to both fictional characters and IFCs. Lastly, I will discuss the merits and shortcomings of the causal function argument.

Chapter 2: Irmak on Creation

Non-causal creation

Abstract artifacts, while not concrete, are created. I view creation as a process where individuals cause other entities to exist. Therefore, I maintain that creation is a causal activity, where abstract artifacts can be caused to exist. Nurbay Irmak, in his paper titled "The Problem of Creation and Abstract Artifacts," claims that abstract artifacts are causally inert (Irmak 2020). His argument is that creation is not a causal act.

Irmak thinks there is a problem with the assumption that creation requires being caused to exist. Instead of attempting to refute that artifacts cannot be created, Irmak offers an alternative route: to reject that creation requires causation. He looks at creation as a particular kind of productive action, denying that the act is causal. To create an abstract artifact, Irmak suggests that we are not causally interacting with it at all. Instead, he offers a non-causal explanation of what happens when an abstract object is created. Such a process, he thinks, solves problems such as confusing existential dependencies and mysterious metaphysical relationships.

Irmak's argument states that the creation of abstract artifacts involves interacting with an *ontological dependence base*, not the artifact itself. The ontological dependence base of an abstract artifact is made up of the various entities and events that grant existence to the artifact. This method can "generate or produce new entities that did not exist before" without the burden of causal inefficacy. Irmak argues that ontological dependence, like other non-causal metaphysical relations, can be generative. By generative, Irmak states that, "We can say, roughly, that a relation is generative if and only if its instantiation brings something into existence (Trogdon, pp.189)." A new entity is generative if it can be established but not created. Irmak exemplifies the Eiffel Tower, and one of its unit sets, or a singleton. The singleton comes into

existence as an entity dependent on the Eiffel Tower; The singleton is a distinct entity that is not created, but generated by the making of the Eiffel Tower. The generativity of ontological dependence relations explains how abstract artifacts are intentionally created in this theory.

Consider how a musical work might be created with Irmak's theory. The musical work can be instantiated, not with cause and effect, but instead, with the establishment of the ontological dependence base. Such a base would have to include a composer with the intention of creating music, a connection to something concrete (the sheet music or respective copies), and the creative activity done by the musical community. To create this abstract artifact, this intentioned person is to bring about the conditions that make up the dependence base. The causal work, according to Irmak, is in bringing about these dependence conditions, not in the creation itself. As a result, the musical work is generated from the ontological dependence base. Ultimately, I will argue that this theory fails to incorporate both fictional characters and IFCs. To create an abstract artifact, I argue that one must be able to causally interact with it by causing it to exist.

Concrete dependence

Instead of creation being a causal activity, Irmak thinks we generate abstract artifacts by moving concrete matter around in the right way. When abstract artifacts are created, Irmak's view would indicate that the interactions do not occur with the abstract artifact itself, but instead, a culmination of specific conditions. Irmak says that when a composer interacts with her musical creation, for example, she is interacting solely with concrete entities such as her physical composition or the musical community.

Problems arise from this view. First, with only direct interaction with the concrete entities within the ontological dependence base, there is nowhere to draw the line. The composer writing

her music is interacting with her scorebook and perhaps her pen. She is also interacting with the plastic and paper of the pen and scorebook respectively. Her neurons are indicating that her body should signal her hand to write.

Irmak might claim that the actions of the composer include only physical entities - pens, plastic, or neurons. However, even with the focus on physical entities, it is unclear what the composer is interacting with, if not the artifact itself. The composer is not intending to move a plastic pen, put ink on paper, or fire neurons; she intends to do something with the music. The standard way of understanding how we create abstract things is by interacting with the artifact, not the conditions involved in its creation. For example, consider a table. Like an abstract artifact, this concrete artifact was created by a person with the correct intentions. It seems like we can causally affect a table, and in doing so, we are interacting with the table itself (not its ontological dependence base). I am not denying that we can interact with parts of the ontological dependence base, like the wood, for example. I am denying that we are *only* interacting with parts of the ontological dependence base, discluding the assembled artifact. As per the intentions of someone creating or interacting with a table, the artifact itself is getting made or affected. The table, which is an artifact, given that it was created intentionally[7], is separate from the conditions that granted it existence.

Unless we can only interact with the ontological dependence bases of tables or other concrete creations, we must admit that causal relationships are possible for any artifact, concrete or abstract. Even while abstracta lack a physical location, the manner in which they are created should not be more foreign than concrete artifacts. A creator's intentional relation to a concrete artifact should at least partially mirror their relation to an abstract artifact. Both kinds of creation,

[7] Such an entity is not created intentionally if an identically shaped piece of wood is formed naturally or produced as a byproduct.

causal or non-causal, should be similar. We seem to have causal interactions with concrete artifacts, from their creation to their continued existence. It is reasonable to expect the same of abstract artifacts.

At the same time, ontological bases for concrete artifacts like tables are not burdened by the same dependencies as abstract entities. Musical compositions and fictional characters are not ordinary objects that can exist physically. Irmak is not wrong in claiming that interacting with abstract artifacts sometimes involves interacting with the concrete things on which they depend. While admitting that concrete dependencies play a role, I argue that it is unnecessarily reductive to boil down interactions with abstract artifacts to solely their ontological dependence bases. While there is often an undeniable connection between abstract artifacts and the concrete objects on which they rely, this does not mean it is impossible to cause mind-dependent entities to exist.

Dynamic abstract artifacts

In addition to considering the importance of concrete objects in Irmak's theory, there are other factors to consider about ontological dependence bases. It is important to note that Irmak's theory is limited to how artifacts get created. The theory does not include how the artifact works after the initial creation. That being said, Irmak says that we cannot cause abstract artifacts to exist, so it is reasonable to assume that this reasoning would extend to after the creation process. Without being caused to exist, artifacts would likely also not undergo any other causal relations after its generation. As Irmak substitutes causal creation of an abstract artifact with the causal creation of an ontological dependence base, the same would have to occur for further interactions. Simply put, any interaction with an abstract artifact would entail interacting with the ontological dependence base instead.

If Irmak's view is correct, it would be impossible to interact causally with abstract artifacts at any point in their existence. Irmak's scope is limited to the creation of abstract artifacts, and his view does not mention how to treat abstract artifacts after their instantiation, but presumably, he would also believe that abstract artifacts remain causally inert after they are established. As a result, Irmak's theory excludes artifacts like IFCs that exhibit changes as they exist.

Consider the non-causal creation of an IFC: a D&D player may bring about a certain ontological dependence base by writing a character sheet, rolling dice to determine statistics, or having certain intentions about creating an IFC. These events, according to Irmak, cause the generation of an IFC. Unlike typical abstract artifacts like TFCs, IFCs are "used" throughout their existence. The properties possessed by IFCs are constantly updating, whereas the properties of a static fictional character are fixed. A problem arises if interaction with abstract artifacts goes through the filter of an ontological dependence base. The changes that an IFC undergo would have to occur to the ontological dependence base rather than the artifact itself.

If abstract artifacts are created non-causally, then the subsequent changes that occur remain mysterious. If Irmak is right to treat artifacts as causally inert when they are created, generating an abstract artifact must happen all at once as the creator brings about the right ontological dependence base. The moment the creator (with the correct intention) brings about the rigid dependence conditions, the artifact is instantiated. The artifact is not capable of causal interaction before or after creation. With this view, adjusting the artifact after its instantiation would require adjustments to the ontological dependence base, not the artifact itself.

First, intuitively, this is not what seems to happen when we modify abstract artifacts. When we modify artifacts, the intention is not to interact with the ontological dependence base,

but to interact with the artifact itself. When creators want to adjust parts of their artifacts, changes seem to be made directly to their creations. Creators have the intention to change the artifact, not the physical entities that the artifact relies on. That said, I concede that it is possible - if not likely - to interact causally with the entities involved in the ontological dependence base. While it is possible to do so, this is still not the intention of someone who wishes to modify her abstract artifact. When a D&D player modifies her IFC, for example, she intends to change something about her playable character. During a session of D&D a player might announce in character, "I become the mayor of this village." Given that the other players allow such a development, something about the abstract artifact changes. The intention of the players is to change the IFC. It is reasonable to assume that the change in question is done to the IFC, not its ontological dependence base.

With non-interactive abstract artifacts like TFCs or musical works, a creator still modifies her abstract artifact with the intention for the artifacts themselves to undergo a change. That said, despite the unwarranted reliance on concreta and the intentions of the creator, Irmak's theory may still be applicable for non-interactive artifacts. For example, an author writing a book might add a quote from the main character saying, "I become the mayor of this village." A TFC like this changes as the author adds this sentence. The change occurs as the author physically modifies the draft of her story, whether that be by typing or writing the new sentence[8].

Second, another aspect of Irmak's view makes it so both TFCs and IFCs are vulnerable. With Irmak's theory, any change to an artifact puts the artifact at risk. In Irmak's paper, he describes the ontological dependence base as producing rigid existential dependency, meaning x depends for its existence on y if and only if necessarily, x exists only if y exists. A set, for example, is rigidly dependent on its members. As a result, the set cannot survive the loss of any

[8] There is the question of when exactly a TFC comes into existence before publication.

of its members. Irmak's view of non-causal creation would find that an abstract artifact has rigid existential dependence on its ontological dependence base. Like a set cannot survive the loss of its members, an abstract artifact cannot survive the loss of its ontological dependence base. Yet, if Irmak allows for the possibility of changing the artifacts, it must be by revision of this ontological dependence base. Due to the rigid existential dependency, the abstract artifact is unable to exist without all the parts of its base. Subsequently, the process would destroy the original artifact or trigger an entirely new act of creation. Any modifications made to the original ontological dependence base compromise the very structure that grants an artifact its existence. It is impossible to make modifications to an ontological dependence base without jeopardizing the artifact it is supposed to generate.

Suppose a composer created a musical composition, x. According to Irmak, x was not created, but instead, generated by the ontological base. The creation of x is a generation that depends on the creation of the ontological dependence base. The ontological base consists of the right kind of intention of the composer (intending to create musical composition x), a musical community, and the concrete composition written in the composer's notebook. It seems that if the composer wants to change a singular note in her musical composition, the causal change is not actually occurring to x. Instead, the ontological dependence base is changed.

I contend that if x is rigidly dependent on an ontological dependence base, problems arise for Irmak: any changes to the original base would interrupt the dependency. An abstract artifact strictly relies on an ontological dependence base in order to be generated, therefore, any disturbance to these conditions would mean that x is not generated properly, or an entirely new but similar artifact is generated.

If Irmak is correct in treating abstract artifacts as causally inert, they must be fixed after their creation. Perceived adjustments to artifacts, according to this view, would need to exist as entirely new artifacts with different ontological dependence bases. Perhaps, this is extreme. It is possible that some of the base could be destroyed or substituted with other entities without destroying the artifact, even with the strict conditions of rigid dependency. For a non-interactive abstract artifact, this might be the case. Suppose that when J.R.R. Tolkien first began writing *The Hobbit*, the first draft contained an abstract artifact called Bilbo Baggins, and this fictional character had a beard. As Tolkien developed his characters, one might argue that a different abstract artifact, namely, Bilbo Baggins without a beard, was created in the published version. It is possible that many abstract artifacts were created in the process of creating The Hobbit, where each character was assigned new properties as the story was written.

However, modification after initial creation is different for IFCs.What occurs during the revision of regular fictional characters does not compare to characters that are interactive and improvised. Tolkien might document that one of his characters killed an orc. This is inherently different from a player using their abstract artifact as a tool to play a game. The player engages with the IFC to attempt to ‘kill the orc’ and continue a story. Where Tolkein’s characters and other TFCs are canonically fixed to a story once it is published, IFCs are created to continue changing after they are created. These artifacts themselves are designed to change, not the circumstances of the entities that grant them existence. As a result, IFCs seem to demonstrate interaction beyond the ontological dependence base. I am not denying that IFCs have rigid existential dependence on the concrete objects to which they are connected. However, to create and change an IFC is to interact with them, to “use” them as a tool to succeed in a game.

Indeed, while Irmak's theory seems to more accurately depict how typical fictional characters operate, it encounters significant challenges when applied to IFCs. Unlike static fictional characters whose properties may be fixed upon generation, IFCs are dynamic entities constantly evolving with player interactions. This aspect of IFCs does not align with Irmak's non-causal creation theory involving ontological dependence bases. If the creation of IFC was truly non-causal, any subsequent modifications to the artifact would necessitate revisions to the dependence base, disrupting the rigid dependence that grants the artifact existence. Such a model is ill-suited to account for the ongoing interactive changes that IFCs undergo. For these types of dynamic artifacts, creation is not a one-time event, but an ongoing process reliant on the players' direct involvement with the abstract tools of a game.

Chapter 3: Friedell on how to change an artwork

The created-abstract-simples view

Metaphysician, David Friedell, offers an alternative idea as to how we might change an abstract artifact after its initial creation. He postulates that authors or composers of fiction and music have a special power to change their artworks. The revision puzzle, as Friedell dubs it, asks why some individuals are privileged enough to change abstract artifacts. Significantly, only Mary Shelley can change *Frankenstein* and only Tchaikovsky can revise his *Second Symphony.* No one else can modify these works. Friedell compares this to jazz or folk, where performers and laypeople do have the power to change these abstract artifacts. Friedell, therefore, hopes to solve the puzzle by explaining why some have the power to modify abstract artifacts, while others do not.

As an explanation, he offers the *created-abstract-simples* view, which states that literary and musical works, unlike concrete artifacts like paintings or sculptures, have no parts, meaning that they are metaphysical simples. Instead of parts, Friedell says that abstract artifacts have structures that can be instantiated. For example, a novel has an abstract sequence of words picked out by the author (a word structure). The author instantiates the word structure using societal rules about how novels are published. Similarly, a symphony, rather than having distinct sound parts, has an abstract sequence of sounds - a sound structure. Changing these abstract artifacts involves changing their structures. By either adding to or replacing the structure, Friedell argues that creators can affect their artifacts if the societal rules grant them the power to make changes. “All changes abstract artworks undergo are changes to rules about them, such as rules about how they should be performed (in the case of symphonies) and rules about how they should be published (in the case of novels). Social practices determine who can enact these rules

and thus who can change the artworks" (Friedell 2021). The proposed rules, he thinks, must tie to social practices, which explains why or why not creators can modify their abstract creations.

Artifacts as metaphysical simples

If an entity is a metaphysical simple, it means this entity does not have proper parts. Abstract artifacts seem to have parts: novels have words and symphonies have sounds. Alternatively, the created-abstract-simples view says that novels do have words, but more technically, it has an associated abstract sequence of words (a word-structure). The word-structure is not part of the novel itself, but rather, associated with the novel by rules about how books are published. The created-abstract-simples view, justifiably, allows abstract artifacts to be capable of being changed after their initial creation. An author can write a novel with a certain word-structure, where there is a standard way to publish the story. The author can change this word-structure at any time by changing the standard way to publish the novel. Bret Easton Ellis, for example, published *American Psycho* in 1991, but made significant revisions for a paperback edition in 2012.

Friedell argues that his view makes it so there is nothing metaphysically mysterious about abstract artifacts gaining or losing different structures as the artifact exists. Friedell claims to have solved the revision puzzle, showing why only privileged individuals are able to change artifacts via social practices. Given societal practices, only Easton Ellis can modify *American Psycho*, due to the existing rules we have about novels. At the same time, Friedell also offers a route for abstract artifacts with more lenient societal rules. For example, different Jewish communities can sing various versions of the song, "Adon Olam," without mysterious metaphysical consequences. Friedell's view seemingly accounts for the fact that there are different rules for official publications compared to liturgical and folk songs.

While the created-abstract-simples view explains why certain people can change abstract artworks, there are still several problems with the theory. First, abstract artifacts, including fictional characters, do not seem to be metaphysical simples. Intuitively, we do not change artifacts by changing the rules about them, we change them by changing their parts. I argue that Friedell is wrong to view abstract artifacts as metaphysical simples because of the following reasons: arbitrary structures and rules diminish what we intuit abstract artworks to be; the revision puzzle can be solved without abstract artifacts being reduced to simples; and if abstract artifacts are metaphysical simples, only extrinsic properties can change.

Structure and rules

First, Friedell wrongfully relies on societal rules when there is no way to establish which artifacts have which rules. While we do have certain rules for publication or performances, it seems reductive to claim that these rules do the heavy lifting when modifying an abstract artwork. There is no official, metaphysically binding process for an author publishing a novel, an orchestra performing a symphony, or a story hosting a fictional character. Ultimately, it seems that it is wrong to say that the rules define the artwork.

To clarify why this is the case, I will offer an alternative example of an entity that is metaphysically simple: spacetime points. A spacetime point is an object that is completely defined by its location in space and time, and it is a metaphysical simple because of its obvious lack of parts. Friedell himself exemplifies spacetime points as another type of entity (in addition to abstract artifacts) that do not have parts. Spacetime points have a clear structure with established rules. Without any properties or parts, they are reduced to relational properties. These relational properties can only invoke relations to each other under the guidelines of straightforward rules. We can say that the difference between hypothetical points A and B is that

point A is a meter to the left of point B. Spacetime point A is a metaphysical simple because it is defined by the rules for how spacetime points operate: point A is a numerical distance away from another point, B. Relational properties of spacetime points do generate the rules for how these entities work, and subsequently, how we might interact with them.

Abstract artworks do not operate as methodically. Abstract artifacts do not seem to be metaphysical simples like spacetime points, because the relational properties of artworks do not seem connected by rules for their performances or productions. The rules required of Friedell's theory are arbitrary because, unlike spacetime points, there do not seem to be any metaphysically binding rules for instantiating artworks. *Symphony No. 5* does not have its specific sound structure solely because of the rules required for performing it. *Symphony No. 5* has its specific sound structure because Beethoven imbued it with certain qualities only partly related to the rules of how to establish musical works. Similarly, any potential modifications to a symphony are not enacted because of the rules, but because of the actual qualities of the artifact.

If changing an artifact means changing its rule-based structure, as Friedell claims, one consequence is that the artifact in question must be diminished to a partless structure reliant on arbitrary rules. When we compare artworks to each other, it is evident that there seems to be more to an artwork than a structure and some associated rules. For example, unlike spacetime points, the relational properties of abstract artworks are not defined exclusively in relation to each other. The difference between two different songs, according to Friedell, would entail that two songs (with no parts) differ in performance rules where 'having performance rules' is a relation between that simple and those rules. There seems to be no account of how specific simples get the accurate accompanying rules. *Symphony No. 5* does not have its specific sound structure because the rules for performing *Symphony No. 5* are different from the rules required

of performing *Ave Maria*. These two musical works are different because they are composed of different abstract parts. Unlike spacetime points, structured rules are not enough to account for what seems to be happening when we change abstract artworks.

How, then, do the simples get these rules, if not with relations with other artifacts? There is something distinct about abstract artworks that makes it unlikely that they have no parts. Artifacts differ from one another because they have different parts, not just different rules.

The revision puzzle

Second, I contend that we can still solve the revision puzzle without artworks being metaphysical simples. Friedell argues that changing an abstract artifact entails interacting solely with the structure and rules that the artwork is associated with. In doing so, societal rules govern what the structure of the artwork can be. The same rules make it so some special individuals have the privilege to change certain abstract artifacts. I argue that this privilege can be upheld even if abstract artifacts have parts. Just as societal rules can be used to invoke word-structures and sound-structures, they can also be used to produce the content of novels and music.

Philosopher Caterina Moruzzi offers a theory where abstract artifacts have parts, but the revision puzzle remains solvable (Moruzzi 2022). Moruzzi proposes another way to view Friedell's revision puzzle with reference to musical works: instead of asking why certain individuals seem to have the authority to change musical works, she thinks we should ask why only certain individuals seem to have the authority to propose a normatively powerful way to perform works authentically. She argues that the concept of authenticity is inherently what allows us to judge if performances fit in the category of 'authentic' or not. "The socially dependent normative force of the notion of authenticity … provides a way to account for the intuition that the authority to change musical works is a prerogative of a restricted group of

people." Authenticity depends on the musical traditions, creator intentions, and societal practices, where musical works can be repeatable while still upholding some relation to the original sound-structure. Moruzzi exemplifies her theory by affirming that she cannot change *Fantasia's* authenticity conditions because social practices valid in the Western classical tradition do not grant her the authority to do so. Moruzzi argues that everyone can present a musical work by providing a new performance, but only certain individuals can make changes be adopted by future performances. Simply put, anyone can perform a musical work, but not everyone can change the musical artifact.

With Moruzzi's understanding of musical works, it appears that these artifacts can have parts while also having specific societal requirements for how they might undergo changes. Social norms remain important to this process while not becoming the sole arbitrator for what the artwork constitutes. The same can be said about novels or fictional characters.

Friedell's view is that the only changes that abstract artifacts endure are the changes to the performance or publication rules. If instead, the parts of an abstract artifact are what changes, it can still be the case that certain privileged individuals are the ones to incite authentic changes. Easton Ellis can modify certain parts of *American Psycho,* for instance, and it is only authentic at the hands of the original author.

Intrinsic and extrinsic properties

As Friedell admits, if abstract artifacts are metaphysical simples, only extrinsic properties of musical works change. Using the terms put forth by David Lewis, extrinsic properties are held in relation to external circumstances (Lewis 1983). For example, a person can have extrinsic properties such as *on-the-couch* or *taller-than-their-neighbor.* Extrinsic properties of entities are also relational properties; they are at the whims of other entities. Alternatively, an intrinsic

property of x is a property that x has irrespective of how things are outside the boundaries of x. For example, a person will possess the intrinsic properties of *is-a-person*, *has-carbon,* or *has-brown-hair.* The person does not really change by getting off the couch or by moving away from their shorter neighbor, but they can change if they stop being a person or dye their hair a different color. Many hold the assumption that an object can only undergo real change if the change occurs to its intrinsic properties. Specifically, intrinsic change occurs when an object has an intrinsic property at time t1 but not at time t2, or the other way around[9]. The created-abstract-simples view runs into trouble given that the change occurring to these artworks is not enough to constitute change in this way.

For both Moruzzi and Friedell, it seems that the changes occurring to abstract artworks is not enough to constitute real change because only extrinsic properties are being modified. Moruzzi's solution to the revision puzzle on how artifacts change (modifying authenticity conditions) does not constitute ontological changes to musical works. Changes in authenticity conditions are relational and extrinsic. They do not depend on the sound-structure of the performance, but the external factors surrounding the artifact. Similarly, with Friedell's view, to change an abstract artifact with no parts, the established structures (based on societal rules) are modified instead. The intrinsic properties of the abstract artwork are not affected by these changes to the structures. Friedell addresses this problem in his paper, arguing that intrinsic properties are not the properties that change when the artifact changes. According to Friedell, we can make valid changes to abstract artifacts by changing only the extrinsic properties.

Friedell argues that modifications to extrinsic properties are enough to change music and novels because he thinks that abstract artifacts do not have any (or almost no) intrinsic properties. For example, consider the claim that *Les Miserables* has the property of being

[9] See Lewis (1983, 1986), Brower (2010).

somber. With Friedell's view, *Les Miserables* has the extrinsic property '*is standard to be published with a word structure with somber content'*. Friedell thinks that the novel has this property because of the arrangement of words and rules of publication, not just because of how the artifact intrinsically is. With no intrinsic properties to modify, any changes made to the artifact must be made to these external word structures and publishing rules, not the novel itself.

I argue that it is wrong to claim that abstract artifacts do not have intrinsic properties. For instance, we can assume that the song has intrinsic properties like *being a song* or *being made to have sounds.* These properties are intrinsic because it is the case that the song has these properties regardless of circumstances external to the song. Friedell would claim that changes of this kind are impossible for abstract artifacts given that there are no intrinsic properties. With this view, a song can only be modified when the creator interacts with the extrinsic properties, like its sound-structure. However, I argue that the creator can modify intrinsic properties that are in place irrespective of external circumstances. For example, she may turn her song into a poem. Perhaps a different artifact is created altogether, but still, in deciding what kind of artifact their creation might be, a creator has the power to design and create the intrinsic properties of their art.

In choosing what kind of abstract artwork to create, artists show that there are intrinsic properties that their creations possess. According to the assumptions about extrinsic and intrinsic properties, change occurs if an object has an intrinsic property at time t1 but not at time t2, or the other way around. Friedell denies this, arguing that relational and extrinsic properties can change abstract artifacts that do not have parts or intrinsic properties but still seemingly undergo changes. However, it seems that abstract artifacts have intrinsic properties that are capable of undergoing changes.

Another problem arises for Friedell given that there would be no way to distinguish between different types of abstract entities. If a song is not intrinsically a song, this abstract artifact is at the whims of external circumstances and rules. If this is the case, a song with the property of *being a song* is circumstantial and temporary. Friedell's view requires metaphysical simples to adhere to the specific rules required of the type of artifact. The view falls short given that there is no way to intrinsically be any type of artifact. As a result, there is nothing in principle that would prevent some artifacts from relating to one kind of rule and not others. For example, there would be no way for a song to relate to song rules and not the rules for poems, novels, stories, or fictional characters.

I disagree with Friedell in that we cannot interact with abstract intrinsic properties, but at the same time, I admit that we can temporarily modify an abstract artifact by affecting its extrinsic properties. An extrinsic property of a musical or fictional work includes the overall structure of the artifact established by societal rules. If a violin soloist changes a note during the performance of *Symphony No. 5*, she is changing the rules for performing it, not a blanket feature of the symphony. This violinist will not affect the original abstract artifact anymore than the extrinsic property 'on the couch' affects a person. Performing *Symphony No. 5* wearing all white, using kazoos, or playing it on the radio are all extrinsic properties that fail to change the original artifact. If there are changes made to this artifact's properties during a replication or performance, changes are exclusively being made to circumstantial extrinsic properties.

As discussed by Moruzzi, extrinsic changes occur when an abstract artifact is replicated, like during a musical performance of a symphony. These imitations of the original abstract artifact may be performed with any number of changes to the original artifact. The performers do not have exclusive privilege to change the intrinsic properties of the original abstract artifact, but

they can still interact with the artifact externally. Intrinsic changes occur when the abstract artifact's original iteration is affected, and these changes do grant the creators an exclusive privilege.

Friedell on IFCs

Friedell's discussion is limited to abstract artifacts like novels and musical works, where fictional characters, like other artifacts under this view, are presumably also granted extrinsic properties from the rules about their instantiation. With Friedell's view, fictional characters seem to get extrinsic properties from the stories they are a part of; the properties of a fictional character can be changed by modifying the word structure of a work of fiction.

One immediate problem upon introducing both IFCs and TFCs with Friedell's view is that fictional characters are parts of other artworks. This indicates that these artworks, like stories and novels, do immediately seem to have parts. Artifacts like fictional stories cannot be a metaphysical simple given that it contains other abstract artifacts like fictional characters. Further, when we modify artifacts, it is the artifacts themselves that we interact with, not external things like rules. If we interact with a part of the artwork, we are still interacting with the artwork.

Secondly, I contend that fictional characters, like the stories they are a part of, have parts and intrinsic properties. These properties are determined by the author, who implements the correct circumstances for their artifacts instantiation. Fictional characters undergo changes if the author implements the correct rules for making modifications. Notably, I argue that the author is capable of changing actual parts of the artifact, including intrinsic properties. These parts of a fictional character are locked into place upon publication, where future modifications and replications are rare but possible.

IFCs are an example of an abstract artifact with variable parts. As a result, the created-abstract-simples view does not account for how we interact with IFCs. With IFCs, there are no word structures or sound structures to impose extrinsic changes. Some abstract artworks like musical works may be temporarily changed from modifying rules about them. A novel or fictional character might have rules for publication. However, spontaneous characters get their properties through improvisation. There are no performances or publications to establish the rules required of Friedell's theory. One might argue that the rules of a game might count. Like other artworks, however, the rules are not the only thing being modified when an artifact is changed. With IFCs, the rules of the game are there as means to facilitate storytelling. While rules are important, they are merely used as a tool. Sometimes the rules are even ignored: unsatisfying dice rolls can be redone or retcons can be enacted if player errors are made. IFCs' properties are often imposed without dependency on the rules. Subsequently, when causal interactions occur, it seems the properties of the IFC change, not the rules.

Having argued that abstract artifacts seem to have intrinsic properties, I contend that IFCs have intrinsic properties specifying that they are designed to be interacted with in a certain way through gameplay. In questioning what is changing when we do use IFCs, intrinsic properties are a viable option. IFCs and typical fictional characters operate the way they do because of their specified intrinsic properties. My D&D character, Reverie, and Suzanne Collins's fictional character, Katniss, have different intrinsic properties specifying their functions. The function of Katniss Everdeen as an artifact is inherently different from that of an interactive character. Subsequently, their intrinsic properties are different. There is no way to pick out why something is an IFC or a typical fictional character if no intrinsic properties indicate the purpose of the

artifact. With no intrinsic properties and no fixed rules, there is no explanation for how artifacts come into existence or undergo changes.

For example, Reverie has inherent properties that typical fictional characters do not possess like '*created with the function to be part of a game.*' While the property of '*being part of a game*' might be extrinsic, the function of an IFC is exclusively intrinsic. In a personal correspondence with Friedell, he claimed that properties like 'part of a game' seem relational rather than intrinsic. I respond by claiming that the function of being used in a game seems intrinsic but the actual participation in the game seems relational. The function of an abstract artifact is part of what the artifact intrinsically is. Similarly, a composer might design a musical work to be performed, where the function of the music (to be performed) is intrinsic. The actual enactments of the function, including the performances, are extrinsic.

While the created-abstract-simples view is promising for explaining why some creators have the power to change their artworks, it is evident that changing abstract artifacts does not solely lie with extrinsic properties such as structures and rules. Friedell's solutions for solving the revision puzzle do not appropriately describe how to change abstract artworks because these artifacts would have no parts, and therefore only extrinsic properties to be modified. Without treating abstract artifacts like metaphysical simples, there is still a way to solve the revision puzzle. I argue that the intrinsic function of the artifact in question grants specific individuals power to change the artwork. The casual nature of role-playing games makes it so anyone is capable of changing the properties of an IFC if they are playing the game. By being created with the function to be part of such an environment, the IFC is intrinsically modifiable through these means.

Chapter 4: Inclusive Solutions

I have argued that we interact directly with abstract artifacts and not the entities in which they are dependent. When we create and make changes to abstract artifacts, it is not a non-causal process with intermediates like an ontological dependence base; nor are we interacting with partless metaphysical simples. In thinking about how we are able to interact with abstract artifacts, the process must include both typical and interactive entities. We would need a theory with appropriate weight given to creator intention while still acknowledging the nature of abstract entities.

Causal efficacy

For typical fictional characters, causal activity is one-sided for everyone but the creator. Readers of books are unable to affect the fictional characters within the story, but these readers can still be affected by these characters. David Friedell (2014) postulates claims like '*Uncle Tom's Cabin* caused many Americans to support abolition' and 'The Fifth Symphony caused Beethoven to be more famous.' He argues that sentences like these ostensibly mean that abstract artifacts cause people to support an idea or become famous, which implies causal efficacy. Ultimately, he thinks the abstract artifacts are the source of the support and the fame. Similarly, consider that Katniss Everdeen inspired readers to try archery. A fictional character caused inspiration, and subsequently, caused concrete events to occur. These examples of abstract artifacts causing things to happen is evidence of causal efficacy.

One might say that *Uncle Tom's Cabin,* The Fifth Symphony, or Katniss Everdeen themselves did not cause anything to happen. However, something, if not abstract artifacts, must invoke causation. Abstract artifacts may be considered causally inert because they are abstract, so one might argue that only concrete things can cause things to happen - the physical books, the

instruments, or the performances. For example, it is not *Uncle Tom's Cabin* that caused support of abolition, but a token of the novel that doesn't represent the story itself. Or, it is not Katniss Everdeen that inspired readers to try archery, but a token of the character as part of the physical book. However, there is a distinction to be made. Consider the following sentences:

(a) Katniss Everdeen inspired many readers to try archery; her skill with the bow was impressive.
(b) Katniss Everdeen inspired many readers to try archery; it was printed in black ink.

In (a), it is clear that the sentence is referring to the fictional character Katniss Everdeen. However, (b) refers to a token of the character, namely, her name written on a page of *The Hunger Games.* Friedell responds to a similar objection by exemplifying the following sentences:

(c) *Uncle Tom's Cabin* caused many Americans to support abolition; it was the most popular novel in the 19th century.
(d) *Uncle Tom's Cabin* caused many Americans to support abolition; many of them have been lost and will never be found.

Similarly, (c) is about the novel whereas (d) is referring to a token of the novel. The differences in meaning between the comparative sentences show that the causal efficacy is likely sourced from the abstract artifacts. Blaming a physical version of a novel for the inspiration it contains does not seem intuitive.

IFCs can also affect players, inspiring emotions or action. Arguably, these entities are capable of producing more causal interactions. IFCs are capable of causing players to make decisions about their games, to talk in a different voice, and to physically roll dice. There is less

direct causal activity when it comes to experiencing static fictional characters that readers are not intended to interact with.

One might argue that readers can have similar direct interactions with fictional characters; for example, some readers may include established fictional characters in their own stories. However, as I emphasized in chapter 3, this does not seem like an authentic modification. Similar to how a violin soloist might change a musical note in a performance of a symphony without changing the original abstract artifact, the established fictional character also remains unchanged. With IFCs, however, the only way to interact with these entities is to make verbal claims about how their properties change. Typical fictional characters and IFCs are both dependent on creation, a causal act, for their existence, but IFCs especially seem capable of participating in causal interactions regularly after they are created.

Evnine and amorphic hylomorphism

In addition to being affected, we can also have effects on abstract artifacts. Simon J. Evnine, in his book titled *Making Objects & Events*, offers a theory that can allow us to affect artifacts. The theory is based on hylomorphism, the view that physical objects are the result of the combination of their matter and form. Evnine explains that the most simple yet sufficient definition of hylomorphism is that some things stand in relation of *being the matter of* to other things; and this relation (the matter relation) is irreflexive and asymmetric. Because it is irreflexive, nothing is its own matter, hence a thing and its matter are always distinct entities. And because it is asymmetric: the domain of things to which it apples has a hierarchical structure. For instance, if x is the matter of y, then y cannot be the matter of x (though it may be the matter of some other thing z) and hence x and y are in some sense on different ontological

levels. Evnine exemplifies a statue and the bronze that it is made of, showing that contemporary hylomorphism makes it so these are two different entities on different levels.

Making Objects & Events is about holomorphically complex entities, which are things that are made out of matter but are not identical to that matter. Importantly, because these entities are not identical to their matter, it is possible that they are able to change this matter over time. According to Evnine, artifacts are an important part of this theory. The nature of what it is to be an artifact (like a statue) grants these types of entities the ability to have temporal and modal differences from their parts (the bronze that makes a statue). For example, if the statue artifact is destroyed into a lump of metal, the bronze that remains survives but the concrete artifact does not[10]. At least two different entities seem to be present, where the concrete artifact statue is made of a collaboration of parts, including the bronze. Concrete artifacts like statues are products of human activity, unlike the other possible parts of the artifact. Like concrete artifacts, if abstract artifacts have distinct and separate parts, these parts can change as they exist. It is important for IFCs that abstract artifacts have this ability because interactive artifacts gain their parts, their properties, piece by piece as the game progresses.

Contemporary hylomorphism, at its core, is the idea that objects are compounds of matter and form. Evnine expands on this view to more accurately account for abstract artifacts. Based on Aristotle, forms[11] refer to the characteristics that give an object its identity, often thought of to be how the matter is organized. Evnine says that we should not include 'forms' as part of hylomorphism. Instead of form, he emphasizes why an object may have matter to which it is not identical without seeing that object as a compound of its matter and some other entity(ies).

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[10] There are many metaphysical problems regarding material constitution, including the question of whether or not the constituted object is identical to the object that constitutes it. For more information see Bennett (2004), Korman (2015), Carnap (1950), Putnam (1987)

[11] Introduced in Aristotle's *Metaphysics,* a form is some thing's essence or definition

Evnine's theory is called *amorphic hylomorphism*. The idea is that some objects have matter from which they are distinct, but this distinctness is not because of the object's form. He takes the Aristotelian stance that such objects must be understood in terms of an account that explains what links the parts, essentially, with how they come to exist and what their functions are. According to Evnine, artifacts come into existence when someone has certain intentions with some material, where this material becomes the matter for the artifact. The process, in general terms, is that they are made of initial matter by an agent acting with the intention to make an object of a given kind. "When there is no intention, there is no creation" (Evnine pg. 144). Artifacts are perfect for this conception.

Evnine's hylomorphic theory easily applies to abstract artifacts; he discusses musical works, fictional characters, and language. Abstract artifacts differ from other kinds of holomorphically complex objects because they are intentionally made but not concrete. He says a musical work, for instance, is a hylomorphically complex artifact that has a sound structure as its matter. A musical artifact comes to exist when a creator works on a sound structure with a creative intention of making a musical composition. Similarly, Evnine says that fictional characters are sets of properties (similar to an ordinary object's matter) attributed to the character. These properties are chosen by the creative intention of the author. Material hylomorphic entities like abstract artifacts, according to Evnine, are not fixed by their matter, so the identity of musical works and fictional characters are also not fixed by the (sets of) properties that play the roles of matter in these cases. So, in Evnine's view, the identity of hylomorphic abstract artifacts like musical works and fictional characters is fixed, instead, by the creative intentions of the composer or author.

Two interpretations

With amorphic hylomorphism, authors make characters out of properties just as a sculptor works on the marble that will become a finished statue. By seeing properties as the "matter" of fictional characters, we can explain why these entities seem to have intuitive identity conditions and modal properties. These fictional characters are individuated by the acts of creation, including the intention of the author. The fictional character is built as the author adds more intended properties. Evnine compares this process to the construction of a building, where the structure grows as the creator adds materials. The fictional character comes into existence when the author selects the properties that will be its matter. There are two different interpretations that might follow. First, (a) the character might slowly acquire its properties as the author writes its backstory, and it comes into existence when the author solidifies her choices on what official properties will be given (perhaps by officially publishing the story). Second, (b) the character might come into existence with its first conception, where the character grows with each additional property it gains as the author writes.

Considering interpretation (a), which states that characters come into existence at the moment where the author officially decides what properties her artifact will have[12]. The immediate question is what entity then, do authors have before deciding on what properties their artifact will have? The unfinished artifact seems like a mysterious entity, and I argue that it is just as mysterious as an unfinished concrete entity. An unfinished table with only three legs, for example, seems like it exists as something a carpenter has not finished. Another problem with interpretation (a) is that there is too much weight on official moments (like publication) that lead authors to solidify their abstract artifacts. Publication is not the only way to solidify a fictional character's properties, nor does it seem that there are any other governing guidelines for this ontological process. If anything, something like publication may act as the arbitrary point where

[12] The artifact, under Evnine's view, may still have changes to its properties after this initial instantiation

the author decides the fictional character has all of its properties. Still, this does seem to mean that the artifact blinks into existence from nothing rather than there being an unfinished artifact that existed with properties from which the solidified artifact was born.

It seems that interpretation (b) is more plausible for how we are to interpret Evnine's account of how abstract artifacts operate. Interpretation (b), which states that the character grows with each property it gets, implies that the beginning of the creation of an artifact starts with its first imposed property. In the spirit of this interpretation, I argue that it makes more sense to treat abstract artifacts without strict rules for when exactly they come into existence. Evnine himself admits that the beginning and end of creation, in general, is vague (Evnine pg. 143). With both interpretations, regardless of the exact point in which the fictional character might be instantiated, the abstract artifacts are capable of accumulating properties as they exist.

Evnine and causality

With either interpretation, artifacts have an ability to change under Evnine's view. Importantly, with this theory, the nature of abstract artifacts are still accurately depicted. For example, Evnine's view allows for abstract artifacts to have various parts even though they may not be concrete. Also, in considering how abstract artifacts might exist while being mind-dependent, Evnine provides a reasonable explanation. Simply put, the artifacts get their parts from the creators. The identity of an abstract artifact, therefore, is dependent exclusively on the intentions of the author(s). Notably, the parts of these artifacts are fixed by the intentions of these creators, but they are not fixed to the artifact itself. This accounts for the ways we perceive creators to produce and modify their artifacts where the properties are fixed to their intentions rather than rooted permanently to an unchangeable entity.

First, with amorphic hylomorphism, creation is an act of causation; artifacts are composed through causal action. “Doing something to some things (or to something) to get them (or it) to compose something, or to be the matter of something, is what making an artifact usually involves” (Evnine pg. 19). When it comes to making an artifact, according to Evnine, there is causal interaction when the creator interacts with matter to make their creation. The creator has interacted with some matter to create something of a certain kind, namely, an artifact with intentionally chosen parts. Causal activity includes choosing the parts and shaping the parts to form a product. A carpenter causally interacts with wood - choosing the pieces and shaping them to her need - to create a table artifact. Similarly, an author causally interacts with the parts of a fictional character - choosing its properties and shaping these characteristics to fit within a story - to create a fictional abstract artifact. With both cases, the creators’ actions cause something new to exist.

In addition to intuitive views on how creators cause artifacts to exist, Evnine’s amorphic hylomorphism renders artifacts as causally active after they have already been created. Based on the plausibility of interpretation (b), it seems that changes can happen at any point after the initial conception of the artifact. With this view, artifacts are able to undergo constant and improvised changes because these entities are made of chosen parts. By changing the individual properties of a fictional character, for example, the artifact itself is changed. The matter, the propositions that make up the fictional character, are not identical to the artifact itself. The artifact is composed of this matter, but because they are not identical, the matter is subject to change without destroying the artifact. By changing the matter that constitutes an artifact, we can affect the entity that the matter composes. When the parts change, the main artifact is affected, and to be affected is to be causally active.

One problem that might arise is that the properties of a fictional character are just as abstract as the artifact itself. As a result, it seems that the properties might have the same inherent causal constraints as the fictional character by virtue of being abstract. I argue that we can interact with the abstract properties just as we can interact with the artifacts they make up. Not only can we cause the properties to exist, but we can modify them like the concrete matter that makes up material artifacts. Just as a carpenter can intentionally modify the wood of a table, an author can intentionally modify the parts of her story and characters. With the table, however, the carpenter is not in an exclusive position where she is the only one capable of changing the artifact or its parts.

The causal function argument

Using Evnine's amorphic hylomorphism, abstract artifacts are sets of properties attributed to the entity in question, and these properties are not fixed by anything but creative intentions. It seems that this is a viable formula for understanding causal activity with abstract artifacts, especially IFCs. Intuitively, IFCs seem to be composed of the properties they accumulate as the game they are a part of progresses. The artifact is modified as it acquires these properties with the help of the creative intentions of the players and random dice rolls. Given that Evnine's theory allows these properties to be fluid, causal activity is on the table for both typical fictional characters and interactive characters.

Some might argue that the artifacts' properties are instantiated only according to the fiction. Consider a fictional character with the property of being tall. Given that this entity is fictional, however, it might not be true that the fictional character is actually tall. Instead, one might argue that the fictional character is "tall" according to the fiction, where the description is only true within the relevant story.

While fictional characters do not exist in the same way as concrete materials, we must still explain how these entities seem to acquire properties within or independent of fiction. Alongside Evnine, I argue that abstract artifacts *are* their properties. As a result, properties of the fictional character are not only true within the fiction, but the properties actually constitute the fictional character. It is intuitive that abstract artifacts are their properties in this manner, and importantly, this view includes all types of artifacts and objects. Amorphic hylomorphism allows for both IFCs to get their properties from improvisation and collective storytelling and fictional characters to get their properties from more structured rules. I argue that a player or author imposing properties onto their artifact counts as causally affecting their artifact.

Evnine asks how artifacts acquire their functions, and states, "in the case of artifacts, it is an obvious and compelling thought that an object's function is somehow tied to the intentions of its maker" (120). That said, Evnine does not think this is enough to answer the question. He includes possibility in artifact functionality - a screwdriver can be used as a hammer or a book can be used to prop the door open. Let K be some artifact kind associated with function F (like a chair being associated with the function of being sat on). Evnine argues that an object is made not with the intention that it be used to F, but rather, that it be a K. Membership of a certain kind explains why the artifact has the function. Since the artifact is made to belong to a kind that features F, the creator simultaneously brings this object into existence as an object of this kind while also bestowing its kind-associated function. An artifact, in this case, is both kind-associated and kind-dependent. The function is then implied as a feature of the kind of entity brought into existence.

Entities of the IFC kind are associated with the function of being part of a game. The entity is both dependent on and associated with this function. However, because of this unique

function, IFCs acquire their properties in a different way than Evnine intended for more typical abstract artifacts. After the initial creation as a certain kind of entity, IFCs get their properties by being part of a game. Players cause their interactive characters to do various actions, and as a result, the story continues as these artifacts develop new properties. Players do not carefully craft each property of their IFCs like an author would for a typical fictional character. Instead, players collectively use their artifacts as tools to collectively ascribe certain properties with improvisation and random dice rolls. Ultimately, IFCs are dependent on and associated with the causal interactions of gameplay. Consider *The causal function argument*:

The causal function argument

1) Artifacts of the IFC kind are associated with the function of being part of a game.
2) IFCs get their properties when players use them as part of a game.
3) If IFCs get their properties by any means other than gameplay, the artifact does not function as it is intended.
4) If an IFC does not function as it is intended, the artifact does not get any properties.
5) Abstract artifacts like fictional characters are sets of properties
6) Without a set of properties, an abstract artifact cannot exist
7) Therefore, IFCs are existentially dependent on the causal interactions of gameplay to get their properties.

This initial version of the causal function argument is based on Evnine's idea of how abstract artifacts get their properties under his amorphic hylomorphism theory. To consider the validity of the argument, I shall weigh each of the premises.

The first premise states that artifacts of the IFC kind are associated with the function of being part of a game. The function of an artifact comes from the intention of the creator, as proposed by Evnine. This seems plausible, when we consider that Evnine means that the artifact is made not with the intention that it be used for a specific function, but rather, that it be used as a kind of thing that is associated with the function. IFCs are associated with the kind of thing that functions as part of a game. Inherently, that is the kind of artifact that is created when a player makes their IFC.

Premise (2) has to do with how artifacts get their properties. Evnine says that fictional characters are sets of properties attributed to the character, where these properties are chosen by the creative intention of the author. If fictional characters get their properties as an author picks them, the same must be said about IFCs. In the case of IFCs, these properties are collectively and sometimes randomly imposed by the players of the game. In a game of D&D for example, I can indicate that Reverie swings her axe at the orc. If I roll high enough on the dice and the other players agree on what happens, a new property is imposed on my artifact.

However, premise (2) has a problem. While IFCs do get some of their properties by being part of a game, it seems that not all of the properties are ascribed in this manner. For example, to create a playable character in D&D, the player must first make certain decisions about what the artifact will be like. When I created my character, Reverie, I determined her class, her species, and her abilities before the game even began. The process is similar to how authors choose properties for their typical fictional characters, and not indicative of causal interactions beyond creation. Premise (2) faces a problem given that it implies that IFCs must get all of their properties as part of the game. The nature of how IFCs are created does not align with this strict assumption.

Premise (3) states that if IFCs get their properties by any means other than gameplay, the artifact does not function as a kind of thing that it is intended for. Recall that Evnine says that a material artifact is to be used as a kind of thing that is associated with the function. Premise (3) relies on a key difference between material and immaterial artifacts. Ordinary material artifacts seem to have more lenient requirements for function kinds. We can use a screwdriver as a hammer or a heavy book as a doorstop, however these objects are still certain kinds of entities with intended uses. Screwdrivers still function as a kind of thing to insert and remove screws and books still function as a kind of thing to be read. Abstract artifacts do not act the same as concrete artifacts, and for this reason, premise (3) is vulnerable when paired with the following premise.

Premise (4) states that the IFC does not get its properties if it fails to function as a certain kind of thing, namely, a tool in a game. Say, for example, that a player has an idea for a character and all the statistics written up, but the campaign never starts. In this case, given these premises, the IFC would fail to really be an IFC. Instead it would exist as a normal static character of some kind. The properties that the character is supposed to acquire during the game never manifest, making the IFC some other kind of entity with a different function. Premise (4) implies that an artifact of the IFC kind does not get any properties in any other manner other than gameplay. For the aforementioned reasons, there are reasons to doubt this.

Premise (5) says that abstract artifacts are sets of properties.This premise comes from Evnine's theory which states that abstract artifacts like fictional characters are compounds of premises just like concrete objects are compounds of matter. Premise (6) says that without the properties that make an artifact, there can be no artifact. Premise (6) seems like a logical conclusion to draw from (5). There cannot be an artifact without the parts that make it.

Therefore, if we fail to use an IFC to play a game - the game where the properties are acquired - there is no way for the artifact to exist without its properties. In considering premise (6), one might argue that an artifact can exist without its properties. Friedell's created-abstracts-simples argument is one such argument. However, for the aforementioned reasons, I believe it is wrong to treat artifacts as metaphysical simples without parts.

Premise (4) through (6) work together to show that active gameplay is necessary for the existence of IFCs. The view is a strict interpretation of Evnine's requirements for an artifact to have an associated function. The argument leads us to the following conclusion: IFCs are existentially dependent on the causal interactions of gameplay to get their properties. Given that IFCs need the interactions of the game to get their properties, and that abstract artifacts need their properties to exist, one can conclude that abstract artifacts require causal interactions. As discussed in chapter 3, IFCs are created with the intrinsic function to be part of a game with causal interaction. As a result, the IFC is intrinsically modifiable through these means.

The revised causal function argument

Evidently, there are several problems found within the causal function argument. Even so, there are some premises that were successful. The causal function argument is right to indicate that artifacts are sets of properties where *some* of these properties are acquired through gameplay. It also correctly shows that an IFC maintains its associated function by being an artifact of a certain kind. The argument fails when it implies that *all* of the properties must be acquired via gameplay in order for an IFC to function as intended. Consider instead, *the revised causal function argument*:

The revised causal function argument

1b) Artifacts of the IFC kind are associated with the function of being part of a game.

2b) IFCs *can* get their properties when players use them as part of a game

3b) If IFCs get their properties by any means other than gameplay, the artifact does not meet its intended function

4b) An artifact can be associated with a function, but not dependent on it

5b) IFCs are associated with the causal interactions of gameplay

6b) Therefore, IFCs are capable of and intended for causal interaction through gameplay

With the revised causal function argument (RCF), I still show a case where it is necessary to claim that some abstract artifacts are causally active. IFCs get many of their properties through the causal interactions of playing a game. However, IFCs should not be confined to the one strict way of inheriting properties via gameplay. The first premise of RCF is the same: artifacts of the IFC kind are associated with the function of being part of a game. Evnine's theories about artifact functions confirm this premise. (2b) is modified by specifying that IFCs *can* get some of their properties from gameplay, unlike the original second premise, which requires it.

Premise (3b) is also less strict while still admitting that IFCs can sometimes not meet their intended function without gameplay. A book can be used to prop a door open instead of meeting its intended function of being read. Similarly, an IFC can be intended for a game of D&D but briefly or never be used with this intention. Players can create IFCs that are never used or add their IFCs to other types of stories. Premise (4b) changes more radically as it allows artifacts to be associated with a function but not dependent on it, as the original fourth premise demands.

The first version of the argument, with premises (5) and (6), paints IFCs as entities that can only get their properties through gameplay; because abstract artifacts are their properties, the only way for an IFC to exist is by using it as part of a game. The RCF rejects this line of reasoning in favor of a less strict conception of IFCs. Instead of having an existential dependence on gameplay, IFCs can be associated with it. Gameplay is where most of the properties of an IFC are acquired, but not all of them. Instead of concluding that IFCs are existentially dependent on the causal interactions of gameplay to get their properties, I argue that IFCs are capable of and intended for causal interaction through gameplay.

IFCs are an interactive kind of entity, but they can still be used for other functions (like if a player writes some kind of story about their character). The IFC is made to be a kind of thing with the function of being a tool in a game. Just like a hammer is made to hammer nails, the IFC is made to do something causally active (act as a tool for gameplay). Because an IFC is made to do something causally active, this implies that it is capable of doing so.

Considering the revised causal function argument

While the RCF argument is an improvement from its original iteration, there are still some problems to consider. First, the requirements for IFCs may be too lenient, as it is indicated in premise (4b). By relying solely on creator intentions, this makes it so things like IFCs may never function as they are intended but still be considered an artifact of this kind. For concrete artifacts, this does not seem to be a problem. For example, a chair may never be sat in, but still be considered a chair. It seems that these assumptions might be different for abstract artifacts without physical parts. Abstract artifacts are composed of their abstract properties and intended functions. An IFC is an IFC because it is a kind of thing with a certain abstract function. Without the function, the artifact is seemingly not complete.

I contend that this leniency is not a problem. Even as an artifact may never take on its associated function, the artifact is still made as the kind of thing to take on this function. What the creator intends for an artifact is significant, as emphasized by Lynne Rudder Baker's *Metaphysics of Everyday Life* (2007). Baker argues that artifacts are intention-dependent objects; she says that these entities cannot exist without relevant intentional states. Baker uses a stop sign as an example, arguing that such an artifact can only exist if it is constructed by someone who understands its function, intends to construct a stop sign to undergo this function, and successfully produces an artifact in line with her intentions.

Similarly, for abstract entities, the creator must have a specific intentioned state to successfully produce an artifact of a certain kind. Reliance on the creator's intentions is vital for abstract artifacts like IFCs with the potential for variable types of existences. To gauge causal activity, intentions are more indicative than how the artifact is actually used because the causal capability of the artifact is present regardless of how it is interacted with after it is created. It is appropriate to rely on creator intention rather than execution.

Another potential problem with the RCF is that it fails to answer Friedell's revision puzzle, which asks why some individuals are privileged enough to change abstract artifacts. It seems that there are people in special positions to incite the changes on abstract artifacts, yet the theory I propose does not explain why this is. There is seemingly no explanation for how certain individuals have the privilege to change the properties of abstract artifacts. Friedell argues that changes made to abstract artifacts are actually the rules required for presenting them, which required the artworks to be partless metaphysical simples. For both the RCF and amorphic hylomorphism, this is not possible given that these views make it so abstract artifacts *are* their collection of parts.

Instead, I will once again turn to the creators' intentions. By ascribing functions, the creator may also ascribe certain implications about who can modify their abstract artifacts. For TFCs, this is quite relevant. J.D. Salinger creates Holden with the intention that only he can modify the properties of his character and his story. For IFCs, there do not seem to be as many exclusive requirements for being able to enact change onto these artifacts. With IFCs, it is the case that there are multiple people who are privileged enough to impose properties onto abstract artifacts. Given the small scale of tabletop role-playing games, where the stories and characters are known only to the players, just by knowing about an IFC usually entails being able to modify it (by playing the game where the IFC is a part of). It is the intention of the creator of an IFC to allow her abstract artifact to be modified by those involved in the game.

Another route to make the RCF vulnerable is to go after premise (5b), which states that IFCs are associated with the causal interactions of gameplay. The claim made in this premise does not state why gameplay would entail causal activity. With the RCF, I argue that abstract artifacts like IFCs undergo causal interactions with players as part of the game they are a part of. For example, I might verbally claim, “I pick up the rock” during a session of D&D. In doing so, I causally interact with my character by adding a property to it, namely, the property of ‘picking up a rock at time t.’

One might argue that there is no way to have any causal interactions of this kind with abstract artifacts because there are no shared physical facilities. An argument of this kind refers to how abstracta lack physical space, which seem to limit our ability to affect them or be affected by them. I might respond by admitting that abstract artifacts are not spatial, but argue instead, that they are temporal - they are located in time. There is a beginning and an end to the existence of abstract artifacts, namely, from when they are created to when they are forgotten.

Metaphysician Amie Thonmasson argues that abstract artifacts are mind-dependent, so they cannot be destroyed by eliminating all the physical tokens, but instead they can be destroyed by not being remembered by anyone (Thomasson 1999). Being located within time makes it so we do have the ability to share something with abstract artifacts, even if it is not concrete. The shared time makes it more plausible that causal interactions can occur.

Still, if one questions premise (5b), it is natural to be skeptical of the conclusion, which says that IFCs are capable of and intended for causal interaction through gameplay. Even with shared temporal qualities, the question remains: how does gameplay constitute causal activity? One might argue that the premises we assign to abstract artifacts are imaginary parts, only manifested as part of the fiction or story the artifact is a part of. Even as they are a part of a game, one might argue that we cannot causally interact with IFCs because they are too abstract.

Despite being abstract, IFCs do seem to affect us. Even when these effects occur outside of the narrative, IFCs still seem to cause a multitude of different reactions. For example, IFCs can cause players to use a different accent, physically roll dice, or feel a multitude of emotions. That said, affecting these abstract artifacts is more complicated. Recall how we use IFCs in D&D. A player can claim: 'I swing my axe at the goblin.' In this scenario, I argue that the player is interacting with the IFC as they add a property to the artifact: 'having swung her axe at a goblin at time t.' However, it is also possible that instead of causing a new property to be ascribed to my IFC, the player is making something true within the fiction of the game.

While the latter assumption is plausible, it does not work with amorphic hylomorphism. Similar to Evnine, I argue that abstract artifacts *are* their properties. As IFCs acquire their properties, I argue that the abstract artifact is 'growing' by gaining more parts - just like a concrete artifact would grow when more parts are added. If the properties that get assigned to

IFCs only apply to what is true of the fiction, there is nothing that explains what constitutes the artifact (if not the properties gained through gameplay).

Further, the same questions can be posed in relation to the fiction: how can we causally interact with the story of a game? A circular question of this kind can be avoided by adhering to the principles of amorphic hylomorphism. Players serve as the causal agents, not within the narrative, but alongside it. By causally interacting with IFCs, the artifacts themselves change along with the story. The player agency used for ascribing properties to IFCs is not merely constrained by the fiction or even game mechanics. Rather, the process is shaped by the improvisational and intentional interactions between the players and their artifacts.

Lastly, the nature of games, including tabletop role-playing games like D&D, imply causal interactions. Compare IFCs to concrete game pieces like the robber in Catan or the top hat in Monopoly. There is a clear way that we have causal interactions with these concrete artifacts, namely, causing them to move around on top of some painted cardboard. However, there seems to be another level to these artifacts. We interact with these game pieces physically, but also as representations as part of the game. The top hat can land on the "go to jail" tile, and a player is not upset due to the physical location of her game piece. Instead, the implications of the game caused her to be upset.

Similarly, by using IFCs as tools in a game, our intentions and emotions are tied to the implications of the game, not the surface level statements we make about these characters. The Dungeon Master (referee figure in a game of D&D, referred to as a 'DM') might verbally announce that my IFC is placed in a jail cell. It seems that the DM caused something to happen to an abstract artifact, but those who oppose (5b) and (6b) would argue that these facts are only true of the verbal story of the game. The verbal statement made by the DM, however, is not the

focus, just as the specific location of the top hat upon the jail tile is trivial. The verbal statement is not the source of the decisions of players nor the source of potential emotional reactions. The verbal statements are tools to affect IFCs. When players make verbal statements about IFCs, they interact with these abstract artifacts directly. Upon doing so, the properties of IFCs are ascribed onto the artifact itself.

In this chapter, I have presented some inclusive arguments for the causal capabilities of abstract artifacts that account for the interactive nature of IFCs. First, I offered Friedell's intuitive idea that abstract artifacts are capable of affecting us. Books, musical works, and fictional characters all seem capable of causing concrete consequences despite them being abstract. Next, I employed Evnine's amorphic hylomorphism to explain how abstract artifacts might be capable of being affected. My initial theory, the causal function argument, was too strict. While it was correct to indicate that IFCs are sets of properties where some of these properties are acquired through gameplay, the argument failed when it implied that *all* of those properties must be acquired via gameplay in order for the entity to function as intended. The revised causal function argument also showed that IFCs can be created with the function to participate in causal activity, but did not require this function to be acted upon. The revised causal function argument provides a case where abstract artifacts are capable of and intended for causal activity without strictly requiring the employment of this function.

Chapter 5: Conclusion

With this project, I have argued that it is not warranted to dismiss abstract artifacts as causally inert entities. First, as our intuition confirms, we create abstract artifacts, causing them to exist despite them being abstract. Irmak claimed that such a process was not causal, invoking the concept of an ontological dependence base. I offered some reasons to doubt this theory, including the problem that it makes modification after the initial creation impossible. Second, after their initial creation, abstract artifacts are capable of continued causal activity as they affect us and we affect them. Friedell sought to explain this phenomena by claiming that abstract artifacts are metaphysical simples with no parts or intrinsic properties. After questioning this method, I presented a theory that requires abstract artifacts to possess intrinsic properties and parts. Abstract artifacts like IFCs have intrinsic properties such as being intended for a certain function. Some such functions, like being intended for gameplay, include causal activity.

The revised causal function argument shows that IFCs are capable of and intended for causal interaction through gameplay. As a result, this argument shows that at least some abstract artifacts are capable of causal interactions. According to the causal criterion, entities that have causal power should be admitted into our ontology. Therefore, the revised causal function argument shows that abstract artifacts have both causal capabilities and admittance into our ontology.

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