# Multiple World Expression

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## Abstract

Linguists, logicians and literary theorists all have their own ways of explaining the interplay between real and non-real worlds. None of these explanations adequately accounts for the use of language in situations where both real and imagined worlds are manipulated and discussed simultaneously, such as roleplaying and acting. In this paper, I investigate the shortcomings of these theories when applied to referring expressions in these contexts. I suggest an approach to multiple world discourse to address these shortcomings by combining elements of possible worlds as presented by Saul Kripke literary fictional worlds and the mental space theory of Gilles Fauconnier.

**Keywords:** Mental spaces, Possible worlds, Imaginary worlds

## 1. Introduction

The nature of the world we live in, and the worlds we think in, is very different depending on what discipline you choose to follow. For logicians, the possible world is the chosen method of study, literary theorists look at the fictional world –although they often try to squeeze their theories into a possible worlds mould (Ronen, 1994). Linguists, while having taken possible worlds and made them their own as well, have added mental space theory to the mix. Even physicists have differing views on the world, and even if it is real (Chown, 2011: 37-38). However, other than possible world (and their bending to various theories), none of them seem to explain certain linguistic phenomena.

If we take sentences such as "Frodo is in a new TV show", we automatically understand that the speaker does not mean Frodo, the character in the *Lord of the Rings* novels and movies, but Elijah Wood, who portrayed him in the films. The relationship between Frodo and Elijah in this sentence is far different from each discipline's viewpoint. Cognitive linguistics can see Elijah and Frodo sharing a domain (Fauconnier & Sweetser, 1996), allowing them to share a designation or a blend, where the character and actor exist in some form of mutual space (Tea and Lee, 2004). In possible world theory, there should be no relationship, and the sentence should be impossible, as not only are Frodo and Elijah in different worlds, but Frodo and television do not exist in the same world (Kripke, 1979).

In the following paper, I will be putting forward a new method of analysis. By combining elements of mental space and possible world theories, this new framework is designed to map and interpret discourse in situations where both real and fictional worlds are manipulated and discussed simultaneously. I will be doing this from a linguistic perspective, using preliminary data from a larger study investigating the linguistic building of worlds in roleplaying games.

The data used in this study is from recordings of natural language taken during typical roleplaying sessions. This paper presents the preliminary framework for a larger study on language use in roleplay.

A roleplaying game is played by a group of people (typically 3-7) using a form of group storytelling. Using dice and statistically generated characters, players use their characters to participate in a fictional world, controlled and created by a single storyteller (or Game Master). In this fictional world, players negotiate obstacles such as traps, monsters and political intrigue, using their character's abilities as constrained by the rules. The game involves elements of strategy and chance, as the success or failure of an action is determined by the roll of polyhedral dice and the statistics of the character. The functions of the game and the roleplaying session proper are performed on three world-levels; the real, the game and the fictional (Fine, 1983: 3-4).

In the following section, I outline the main theories I intend to use in my solution, each coming from a slightly different discipline. These descriptions also detail some of the shortcomings of each theory in relation to roleplaying and acting based activities, using examples from the collected data.

The third section gives some examples of designation in multiple world systems, in hopes of illustrating just one of the benefits of a combined approach. A multiple world system is a situation, such as roleplaying, where worlds outside reality are discussed. The combined approach is explained in detail in section four, with a brief account of how these worlds are negotiated, where each established theory fits in the nexus and examples of the proposed approach in action.

## 2. Worlds and Spaces

In this paper, I will discuss three main types of world that have been covered in recent literature; the possible world, the mental space and the fictional world. Each type has been shown to have its uses in its own field- the possible world is an excellent tool for understanding modal logic, the mental space helps to explain certain aspects of speech and understanding that had limited or no explanation previously, and the fictional worlds of literature and media are studied as an expression of the imagination.

### 2.1 Terms and Background

Throughout this paper, I will refer to both worlds and spaces. For the purpose of this study, a world is defined as what Fauconnier and Sweeter would call a base space (Fauconnier & Sweetser, 1996: 11) the initial point from which mental spaces are built. Unlike Faconnier and Sweetser, my worlds are not limited only to reality, but to imaginary mental worlds as well. A world is shared between all participants in the discourse, and is required to be consistent enough between participants for all involved to understand in-world action.

Evidence within data collected for a larger work shows the existence of two types of world beyond reality. This is attested by many authors on roleplaying games, such as Gary Alan Fine (1983: 3-4) who say that not only do real lives come into roleplaying interaction, but there is also a world of rules and a world of fantasy, separated by relevant knowledge. The worlds I present are a fictional world, much like the fictional worlds of literature, television and film- and in many cases are the fictional worlds of film, television and literature- and a working (or gaming) world that links reality to the fictional world through statistical, visual and mental representation.

Roleplayers create secondary worlds for the game to take place in. Usually, this is a fantasy world, entirely divorced from the real world. These are created mentally, maintained linguistically and shared between all members of the roleplaying group. This world is entirely 'real' in the context of the game- any actions performed by the characters (dictated by the players in the real world) have a lasting effect on the fictional world. The world has its own population, none of which are the same people as in the real world, though they are controlled by real world counterparts and may have similar or even the same personality or physical traits as real people. Often, players and characters share a designator.

The real world is made up of physical objects, while the fictional world is not. Because of this, the gaming world requires, and has, both a physical and intangible form integrated within it. Physically, the gaming world is a place of dice, gridded mats, figurines and rulebooks. On the intangible side, it is a world of strategy, confirmed detail, narration and

interpretation of texts. These three worlds are distinct from each other and limited in what effect they have on each other. A similar three-world system is seen in film and theater. Aside from reality, film and theater have a fictional world of the story (of which the film or play itself is a visual representation), and a stage or studio where the production takes place serving as a bridge between reality and the fictional.

A great deal of this paper is based upon the theory of mental spaces. A mental space is a representation of a world evoked in an utterance. Whenever a speaker evokes a setting other than immediate reality, such as the past, future or representation, the addressee creates a mental space to house information given by the speaker (Fauconnier & Sweetser, 1996: 8-11).

To use the standard example, if two people were looking at a painting of a blue-eyed woman, and one was to say "the blue eyed girl has green eyes", the person hearing that utterance creates in their head a world in which the girl's eyes are green, which in turn may reflect reality, as opposed to the representation in the painting (Fauconnier, 1985: 12).

A fundamental part of mental space theory is that spaces are created from a single base that branches into multiple "child" spaces and subspaces, creating a lattice (Fauconnier & Sweetser, 1996: 11). Branching spaces are created from the base world, and contain a statement that adds to, conveys information about or contradicts the known world. From there they either modify the understanding of the world or are themselves modified to become something to add to the world, or to be rejected. Much like possible worlds, spaces can be used to test what is possible in a world, what could have been done differently or how a possible action could affect a world without actually changing it right away.

I will now discuss some of the pre-existing world theories currently circulating.

*2.2 The Possible World*

Possible worlds refer to hypothetical constructions where an aspect of the world is changed, such as Nixon never being a president of the United States or cats being robots. These inferences are always based on the real world (Stanley, 1997: 556). Kripke describes a possible world as something more like a "possible state" or "possible history" of the world, rather than a separate planet or dimension to exist in (Kripke, 1979: 15). In *Naming and Necessity*, Kripke implies that a possible world should be treated as possible or counterfactual results of events in the real world, a sort of splitting point should something in the past have occurred differently (Kripke, 1979: 16). As Kripke states "Possible Worlds are little more that the miniworlds of school probability grown large". Kripke's possible world also ignores the possibility of non-existence, at least early in the piece.  Unfortunately for this theory, non-existence is an essential part of imagination, whether in creating a fictional world, studying mythology or extrapolating events that have not yet occurred, or never did. These worlds are created only when needed (possibly to make a point about rigid designation) and shouldn't be created to be purposefully impossible (Kripke, 1979: 18).

The main focus of possible worlds in linguistics is rigid designation. Rigid designation suggests that a proper noun and the indexical first and second person pronouns should refer to

the same entity in every possible world where the entity exists (and by extension, none where it doesn't) (Kripke, 1979: 48). It would also appear that Kripke's initial idea of rigidity is based on a decision by the speaker. The problem here, of course, is that a speaker may decide to call something by a different name in another world, or designate nonexistent entities with the existent entity's designator (describing characters in a film by the actor's name). If rigidity is a decision of the speaker, then the entire theory apparently exists because it is convenient to have it that way in general, casual speech. Unfortunately, natural speech does not work to fit theories, and problems arise in multiple-world discourse such as roleplay gaming. Take example 1 below:

1. Sean: After interrogating the prisoners etcetera

Sam: Where is your butter?

Sean: In the door

Sam: That's right

Keith: That's how the interrogation started; Sam walked into a dungeon and went to the xxx master where is the butter

In the above, the game play is interrupted by Sam, who is asking Sean where he keeps his butter. Further on, Keith acts as though Sam were in the fictional world, asking the prisoner where the butter is. Sam is therefore spoken of as being in a world where he cannot physically exist, and asking a nonexistent character about an object that is both irrelevant and not readily available in the fictional context. As Sam is a real person with physical form and connections to the real world, and can only exist in the real world and cannot in any way exist outside of it, if rigid designation is to be followed, then Keith should not have been able to refer to Sam within the fictional world. This goes against the standard rigidity statement which specifies naming only where something exists, and only a single thing. This, to me, indicates a more complex world system, similar perhaps to the mental space lattice of parent and child spaces, but with multiple bases and input from multiple participants. This developing system is discussed further in section four of this paper.

It is important to say at this point that the terms of rigidity will need to be expanded to cover sets of worlds, rather than single worlds or entities as it currently stands.

### 2.3 Mental Spaces

The notion of mental spaces is designed as a more linguistic approach to cognition and worlds (Fauconnier, 1985: 1). Mental spaces function by taking knowledge of the real world- the world as it is- and, through discourse, build a series (or lattice) of subsequent spaces that rely on certain conditions. Mental Space utterances usually take the form of 'if' clauses, recounting of past events or putting conditionals on occurrences (such as "when you get home, I will do the dishes"). Like possible worlds, mental spaces are intended to be based solely on reality (Fauconnier & Sweetser, 1996). For instance, the sentence (used for a fair few discussions on the subject) "the girl in the picture with green eyes has blue eyes" sets up a mental space where a girl has a different color eyes in reality than the real girl, however

both girl and picture are found in the real world. Where mental worlds are set up as a question or contradiction, the space will directly contradict or question reality.

In mental space theory, a cognitive domain is a category that links various objects. For instance, the sentence "the ham sandwich at table four wants a coke" is understood to mean that the person who ordered the sandwich wanted the coke, not the sandwich itself. This is because within the cognitive domain of the restaurant, the customer and the order are so linked that they can share a designator (Fauconnier & Sweetser, 1996: 2).

In the data, examples of cognitive domains appear not just in the real world, but spread over several worlds, as in the following example:

> 2. Drew: Natural one out of shock that Tim actually hit an enemy not one of us

In the above, the cognitive domain of the game allows for the use of the proper name *Tim* to refer to not only to refer to Tim- a participant in the game- but his character as well- an alchemist bomb thrower with a habit of hitting team members. It also shows that pronouns can be used within cognitive domains as well, with the use of *us* here referring to the party of characters rather than the group of players. Drew's reference to a *natural one* indicates he rolled a one on his dice—an automatic fail- attributing it to the shock of Tim's effectiveness. In example two, two distinct worlds are in play. Firstly, the world of the game table, where dice are rolled, and secondly, the fictional, where the characters and their enemies reside.

These worlds are so interconnected that, albeit jokingly, the fictional events of the game can affect tangible results. The interconnected world pair forms a domain, Tim's real name is used to refer to his fictional character, indicating a domain that could possibly be called "Tim and his characters". The pronoun "us" also falls into the collective domain of the players and their characters.

*2.4 Fictional Worlds*

Finally, we have the fictional world. Unlike the other world types, the fictional world has no basis in reality. While there are examples of fictionalized accounts of true stories (Colleen McCollough's "Masters of Rome" series for example) (McCollough, 1990), they are still self-contained and still considered a non-real world- we speak of McCollough's Rome as a different Rome than the real one. Fictional worlds have no ability to affect the real world, beyond a general emotional response to reading about them. They are built by the imagination of an individual writer or storyteller and put on paper to entertain.

Reference in fiction has been discussed at great length by a great many literary theorists. Discussions have included deciding whether a fictional referent is empty. In his article on the subject, Uri Margolin (2002) discusses three stories with different kinds of proper noun reference, including designators without references, withdrawn references and designators without clear reference. In each case he explains that, even where a referent does not exist, a series of beliefs and a file of information is built around a proper name, even where there is no real person to build it about.

In roleplaying, the building of a 'file' about fictional characters occurs between the gaming and fictional worlds. Characters are represented by a page of statistics that is the physical entity, as well as a group shared idea of the character as a person. The character can also be represented by a miniature figurine, which may or may not be look like the character, be representational of a race or class, or even vaguely humanoid. Representations can be simply symbolic, where players use colored markers, coins, household objects or spare dice as their miniature counterparts.

Because of all this cross representation, and a requirement that the character and fictional events follow a certain set of rules, any references to the fictional world have to be understood to have some impact outside it and any references and actions in the gaming world could affect the fictional. As a result, reference to the character by name tends to occur mainly when a distinct differentiation between character and player is needed, such as direct character speech or taboo action, and for disambiguation between player and representations of the character.

A prominent example of proper noun use in the fictional context is when a character dies. While this does not apply to all players, when talking about character death, the personal pronouns normally shared between character and player make way for a proper noun or definite description use.

> 3. Drew: My paladin died by flaming mud ball!

Example 3 demonstrates the sudden widening of the world gap when an unfavorable circumstance occurs. The use of the definite description, rather than the more standard *I* for the character indicates that talking about oneself as dead is uncomfortable. Usually the character and player link is strong enough that implications of actions and reactions of the character can be moved some way on to the player. This highlights a requirement of a system where the fictional world and the game world are linked closely enough to allow for cross-world effects. In a standard fictional world, there are no direct counterparts in the real world, and so these linked connotations can't exist and require no special treatment.

It is important to mention that literary theorists have attempted to use possible world theory to explain and explore fictional worlds. Particularly, how proper names operate and refer in fictional worlds has been a focus of literary philosophy. Literary theorists have embraced possible worlds, as they have other philosophical theories, which "... have become more apt for supplying solutions to pressing literary problems of fictionality because recent trends in philosophy offer more flexible approaches to questions surrounding reference, truth values, modalities, and possible and inactual situations" (Ronen, 1994: 43).

The appeal of possible worlds to literary studies is, at least in terms of reference, is that there is no need for a referent to have any known properties in order to be referred to, they only need a name (Ronen, 1994, 43). It is names that are the particular focus of literary possible world theory, particularly who they refer to, and how they can refer to something non-existent (Pavel, 1979).

The adaptation already made by literary reference for non-existence can then be absorbed into my own framework. Unlike literary reference, however, reference in roleplaying cannot be treated independent of properties. There are fundamental properties that indicate the referent, and what terms are allowed to be used for a referent. We must know what world is being spoken of to identify a referent, and what characters are created and controlled by which players. This is because, as seen in example 2 above, the same reference can be used for many referents.

In the following section, I will examine in more detail proper names and pronouns as they are used in roleplaying. The current separation of the fictional from the real does not allow for interaction between the two in a constant and real-world way. Unlike examples in roleplaying, the data used for literary theory tends to be the self contained worlds of the novel. Novels lack the ability to be directly manipulated and changed by their audience. Because novels are static, there are no frameworks for analyzing cross-world manipulation or even constantly changing worlds. The ideas of existence in fiction cannot be discounted when creating a framework for multiple world speech acts.

## 3. Designation in Multiple Worlds

In this section, I will look at how reference works in cases of multiple world systems, particularly roleplaying games and film acting.

So far, we have seen that what current theories lack is the ability to handle multiple base worlds or situations where multiple worlds need to be accessed at the same time. This section will show why we need a new system and begins to build the foundation of the framework itself.

The use of proper names in roleplaying is complex. The complexity of some of the language use was demonstrated in the previous sections. I will go into more detail about the language used here. Examples 4 and 5 take place during a standard roleplaying session. Example four is spoken in character by Ben, who put on a slightly deeper voice to indicate he was speaking for Magni. Five on the other hand is spoken during a brief break in the game, and Ben is speaking as himself, for himself.

> 4. Ben: Magni's needs are simple, I seek to serve, and fight

> 5. Ben: What disturbs you about Biggles, Sam?

These are both examples of what would be considered as standard proper noun and second person pronoun use during gameplay. The use of the first person pronoun is atypical and will be discussed later.   Both examples are from the same speaker. Example 4 refers to Magni, a character created for the purpose of the game, while Sam refers to one of the participants. The term *Magni* refers only to a character in the fictional world, and *Sam* to Sam in reality. The proper name *Biggles* refers to the fictional character created by author William Earl Johns, and the book series he features in. In both these examples, the proper noun refers only to the entity within its own world. On the other hand, take the following example:

6. Peter: Rob's turning into something, like, smaller and, like, less conspicuous these days

Similar to example 2, the proper name *Rob* used in example 6 is not referring to Rob himself but Rob's character in the fictional world (Azrik). This is made clear by the surrounding lexical items, as Rob in real life cannot literally "turn into" anything. As rigid designation theory says that a proper noun cannot designate in a world where the referent doesn't exist, a simple 'game-fictional worlds are possible worlds' explanation does not adequately explain the referent system.

The first person pronoun behaves in much the same way during a roleplaying session. It can designate a wider scope of entities than just the speaker. First person pronouns are restricted to referring only to entities in the cognitive domain of the speaker. So even if a player was to take control of the character created by another player, the first person pronoun could not be used to refer to the new character, as they are within the domain of the creating player, not the controlling player. The first person pronoun used in example four is a prime example of first person pronoun use for character, as is example seven below:

7. Keith: I cast hold person on the cleric. Hmmm maybe I don't

Keith uses the first person pronoun in the above example to refer to his fictional character, not to himself. This is shown through the use of the fictional world lexical items, the terms *hold person* and *cleric* being specific to the game setting.

The same phenomenon occurs with the second person pronoun. The second person pronoun is often used not only to refer to the addressee of the utterance, but to designate their character. For instance:

8. Sean: After damage reduction you take nineteen damage.

In this example, Sean is taking the role of the game master. He is explaining to Keith that his character in the fictional world has taken a certain amount of damage (represented by a numerical value) from a fireball. The second person pronoun is designating Keith in his role as the addressee. However the surrounding lexical items do not coincide with Keith in his basic, real world form. Keith himself does not have damage reduction- but his character does-nor can he take damage in a numerical form. His character can take the numerical damage when the character is in the statistical form of the gaming table and the corresponding actual damage to the character in the fictional world. This is an example of a working (game table) world reference, where rules and statistical values exist to correspond to the fictional world.

The functionality of references is not limited only to a single target world.    Instead, speakers can use two target worlds, one describing the other. Names of fictional world entities can be used to refer to real-world entities.    Take the following examples:

9. My grandma looks like Bilbo Baggins

In this sentence, Bilbo Baggins refers not to the fictional character of the Lord of the Rings novels-who, being fictional and in writing only format, doesn't really have a fixed physical

appearance-but to Ian Holm's portrayal of Bilbo Baggins in the Lord of the Rings films (Jackson 2001).

The multitude of accessible worlds in both roleplaying and acting can include extra versions of the three world types discussed above. Take a sentence such as the following:

> 10. Mr. Bingley is related to Belatrix LeStrange

Here the character names from two separate fictional worlds are referring to Crispin Bonham Carter and Helena Bonham Carter respectively.   In both these cases, the associated entity is used as a reference to the target entity.   Of interest here is that not only do the character names refer to source entities- in reality and the fictional worlds- but to two different fictional worlds, those created in the BBC adaptation of *Pride and Prejudice* (Birtwistle & Langton, 1995) and the film adaption of *Harry Potter* (Heyman, Barron & Yates 2007). This is done through the working- studio in the case of actors- world, through an implication that the characters mean the actors, and that the actors then correspond to a real world relationship (as perceivably, an actor, and in turn a gamer, could be seen as being in a sort of self/ character limbo).

The two proper names in example ten, are referring to four people in five different worlds within a single, real world relationship understood via the intermediary studio world. A better illustration of this concept is given in section four, figure 2. The world of *Pride and Prejudice* is not the same world, or even directly linked to that of *Harry Potter*, yet we can still understand the meaning. In my framework, this is done via an intermediary word, the studio, which links the real and the fictional. Each fictional world has its own studio world, but as the physical elements of that world are grounded in reality (to the point of forming a linkable cognitive domain) it allows the fictional names to connect to real world referents.

Similar research on player versus character discourse was performed by Tea & Lee (2004). Unlike my study, Tea and Lee studied the use of pronouns in the computer roleplaying game *Icewind Dale II*. They sought to explain the ambiguity of reference in the predefined text of load screens (static screens displayed between scenes) and in parts of the non-player character dialogue (Tea & Lee, 2004). Tea and Lee do this using conceptual blending as proposed by Faunconnier and Turner (2002). In conceptual blending, a blend of two mental spaces is created with two input spaces and a generic space that covers shared information. In tea and Lee's account, the input spaces are the characters and the people who access the computer interface (whether the player or the programmer) (Tea & Lee, 2004: 1623).

Taking an example (example 11 below) from Tea and Lee's work, we can see where they claim the blend between inputs occurs:

> 11. Zavier: Shaengarne Bridge?

Ulbrec Dinnsmore: Let me see your map; I will mark its location for you- here is Targos, and Shaengarne Bridge is just to the south. (Tea & Lee, 2004: 1622)

In this example, the non-player character Ulric Dinnsmore asks to take the character's map and marks Targos and Shaengarne Bridge on it. After this dialogue, the game's map interface is displayed and both locations are marked.

Tea and Lee claim that the pronoun "me" in this example refers not only to Dinnsmore the character, but also a game designer that can edit the interface map. The marking of the location occurs in the fictional world, where Dinnsmore takes Ulric's map, but also on the interface. When the player pressing a specific key, a map of the area appears on screen, on which the location of Targos is labeled. The marking of the map is done by both Dinnsmore and the programmer, and both are referred to by a single first person pronoun.

This reference occurs through a blend of the input worlds of the game's fictional world and the game designer's world, creating an interface-functional Dinnsmore (Tea & Lee, 2004: 1624). They point out that each input space contains certain traits not shared by the other. It is this same trait based separation I use in my own world-separation framework for worlds in roleplay.

Unfortunately, due to some innate trait differences in the way computer roleplaying games and table top role playing games work, the blending theory once again falls short in explaining referencing in my data. Computer roleplaying is played through a presented image. The fictional world as a result becomes much more like the green eyed girl of standard mental space examples than what is happening in my data. The key difference to the way language works in both contexts is due to what I am calling occupancy. Occupancy is best defined as the current base of the utterance. Occupancy can occur in any of the three worlds of roleplaying. From there, the participant can reference the occupied world or the world one step away (i.e., player occupied can refer to player, real or fictional, but real occupied can only refer to real or player). The theory of occupancy is based on Lakoff's divided person metaphor (1996).

In the article "Sorry, I'm Not Myself Today" (Lakoff, 1996), Lakoff presents an explanation for sentences such as "If I were you, I'd hate me," where the first "I" and "me" refer to the speaker, and the second "I" refers to a version of the addressee and the speaker melded together (Lakoff, 1996: 94-95). Lakoff's hypothesis is that in such sentences, the speaker is able to 'split' himself in two, into a 'self' and a 'subject' (Lakoff, 1996: 102). The self remains the speaker, grounded in reality, while the subject can be projected outside the speaker's person, in this case, into the addressee (Lakoff, 1996: 102). In terms of occupancy, it is the subject projecting into the consciousness of either the character, the player or staying in the self that determines the base occupied world.

This occupancy does not appear to occur in computer games in the same manner as in tabletop games. Computer games seem, instead, to have a more control based system. The player or programmer of a computer game can control the interface, however they do not "become" the character. Because of this "becoming", a blend is not required, instead only requiring a single point of reference.

The blend approach falls short when multiple worlds and multiple participants are introduced at once. For any given world in roleplaying, there are multiple people talking about it and creating it. Each of the three world levels has the same set of participants in any given game. Because of this, each world is a blend of each participant's view of it. This is perfectly adequate for the participant level of the new framework. Unfortunately, the resulting blend would then, once again have to blend with the other worlds, each of which is a blend in itself. Where two worlds result from a string of utterances, such as character action in fiction that requires confirmation of rules by others, the blends would have to separate, and return to the original three world state, rendering the blend nearly pointless.

Gamers use scale miniatures on a gridded map to represent their character's position in game relative to physical features and enemies. The blend here occurs because a movement of the miniature in the player world directly represents movement.

> 12. Peter: Sam moves up next to Rob

Example twelve is an instance of Peter moving a small, miniature representation of Sam's character Magni to a square adjacent to Rob's character. Peter uses Sam's name and Rob's name to refer to their characters. The reference is also connected to the miniature representation. In this case, the input of miniature positions and the input of the fictional situation blend so that moving the miniature moves the character.

While blending works for the link between miniature and character, having the proper names of the player introduces another input. Other than the name, however, this input contributes nothing to the blend. We need to finds a different theory as to why reference terms of the real world can be used when the real world is not in play. In order to understand proper names across multiple worlds we have to look elsewhere.

Ray Jackendoff, in his paper "MME Tussaud meets the Binding Theory" (1992), presents what he calls "the statue rule". The statue rule states that "it is legitimate to identify a statue by using the name of the person the statue portrays" (Jackendoff, 1992: 1). It is simple to switch "statue" for "miniature", but this would not solve the problem, as the miniature is a representation of the character, not the player, but uses the player's name as a reference.

For this, we require a rule to account for reference sharing without a direct link. For this, we have to look more closely at the processes involved in reference.

Figure one illustrates to path of reference to fictional characters via miniatures:
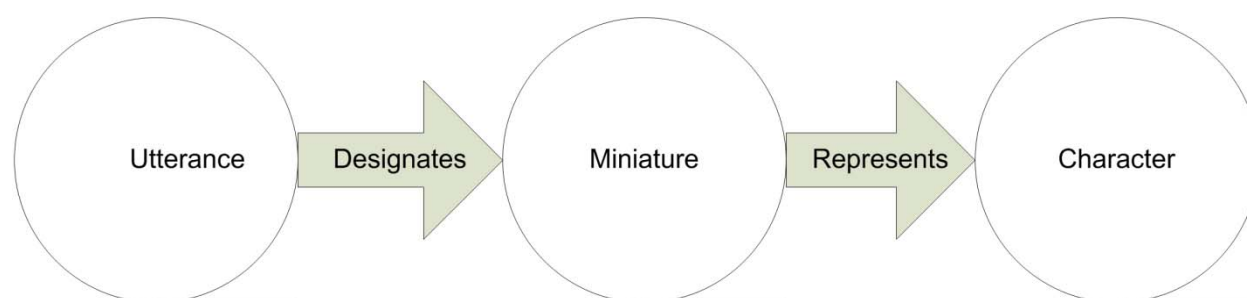


Figure 1.

At the utterance level, we find the use of the real name to denote the miniature, and the miniature represents the character. But how is this explained? For this explanation, we must look to all of the aforementioned theories. By taking parts from mental spaces, possible worlds, the statue rule and blending, a solution should become available.

## 4. A Combined Explanation

The theories presented so far, those of mental spaces, possible worlds and fictional worlds, do not fully explain the use of reference in roleplay. Firstly, the theories are not designed or equiped for multiple simultaneous worlds, nor cases where the reference source is not directly connected to the referent.

Occupancy is another issue, as it seems to negate the need for blending. By combining aspects of these theories, we can create a framework for both real and imaginary worlds, as well as multiple-world inputs and multiple participant imaginations.

Take Figure 2, which shows the multiple-world structure of example 10.

    10. Mr. Bingley is related to Belatrix LeStrange
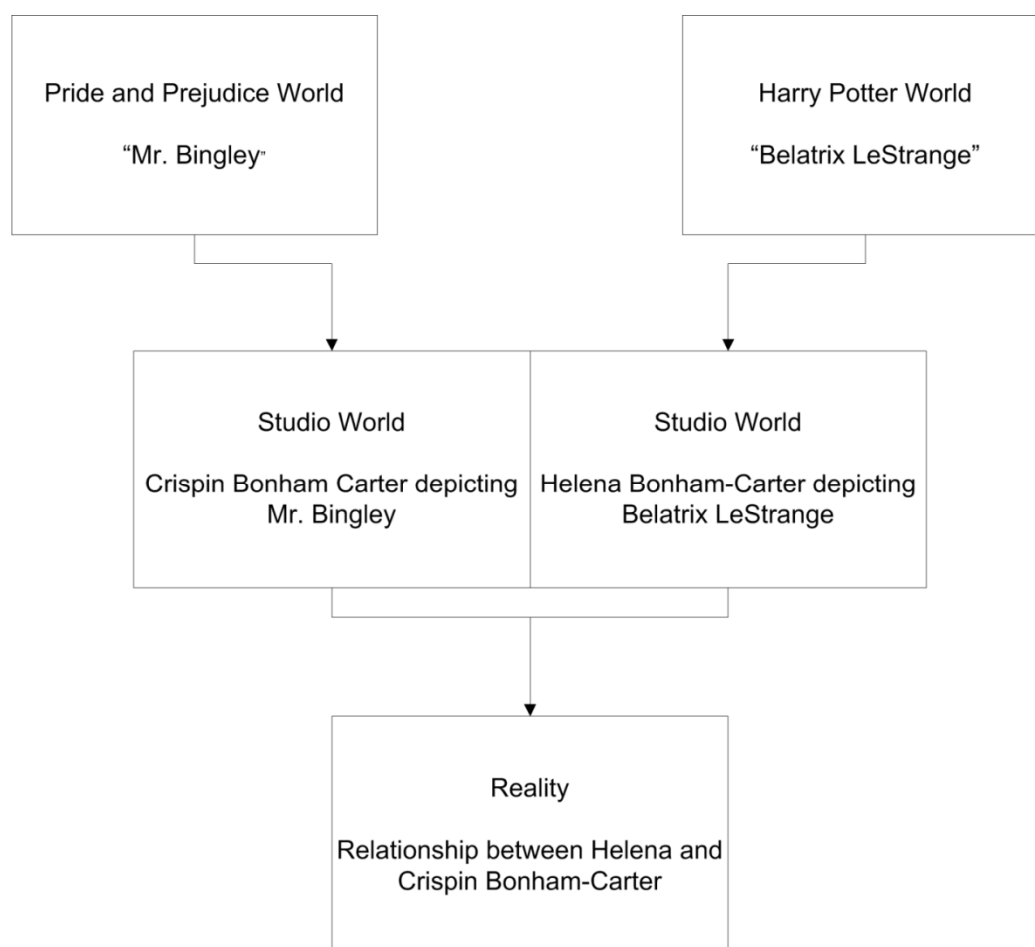


Figure 2.

Figure 2 shows that within this single utterance, several worlds are involved in discussing a real world relationship. The use of the proper nouns in the two fictional worlds then implies a reference to the studio world, where the duality of the reference comes in to play, as it is here that the depiction of character takes place. The studio world equates to the player world, as this world contains the controllers of the fictional. The film itself best equates to the miniatures, as it is a representation of the fictional world.

The reference to the studio world in this case is not explicit; it is a required intermediary space, especially in roleplaying. Finally, the relationship given in the utterance exists in reality with no bearing on the characters. This creates a series of worlds as shown. As this is a simple system of representative reference, there are no major mental spaces that exist to link the worlds or make changes to them. In order for an actor to access and occupy their character, they must first occupy the studio world. There can, therefore, be links made to two different fictional worlds and reality in a single utterance, without confusion or misinterpretation.

The requirement of a central in-between-world may look like that described as a blended space by Tea and Lee. Tea and Lee include only the fictional characters and the player operating the interface. This is the equivalent of the fictional world and part of the player world (the character controlling part) in my framework.

Where do mental spaces fit in this framework? While a world is the basis of interaction that all participants share and know, the mental space belongs to the individual participant. In my framework, a mental space contains what is expressed by the participant. It can contain their knowledge interpretation or vision of a world, or it can express changes the participants want to make.

Figures 3, 4 and 5 gives examples of the new framework when applied to data discussed in this paper:

Figure 3.

Figure 3, adapted from example 12, takes place in two worlds, and the mental spaces connected to them. In this example, a single mental space is connected to two worlds, and changes and confirms facts about both worlds simultaneously.

Here the speaker uses the miniature figures on the table as a point of reference to where the characters are in the fictional world. These positions become the base world. His utterance then dually refers to both the miniatures and the characters using a single term linking them within the cognitive domain of the game- or even the sub domain of 'belonging to the designated player'.

Within the mental space, the speaker performs a world-changing action- moving Sam's character. This corresponds to the physical movement of the game piece in the game world. The movement, if not contested, is absorbed into the worlds and creates a new base. The movement of the characters, if not contested by other participants, is absorbed into the fictional world. This creates the new, shared base world, where the new movements and actions of characters will take place using other participants' mental spaces.
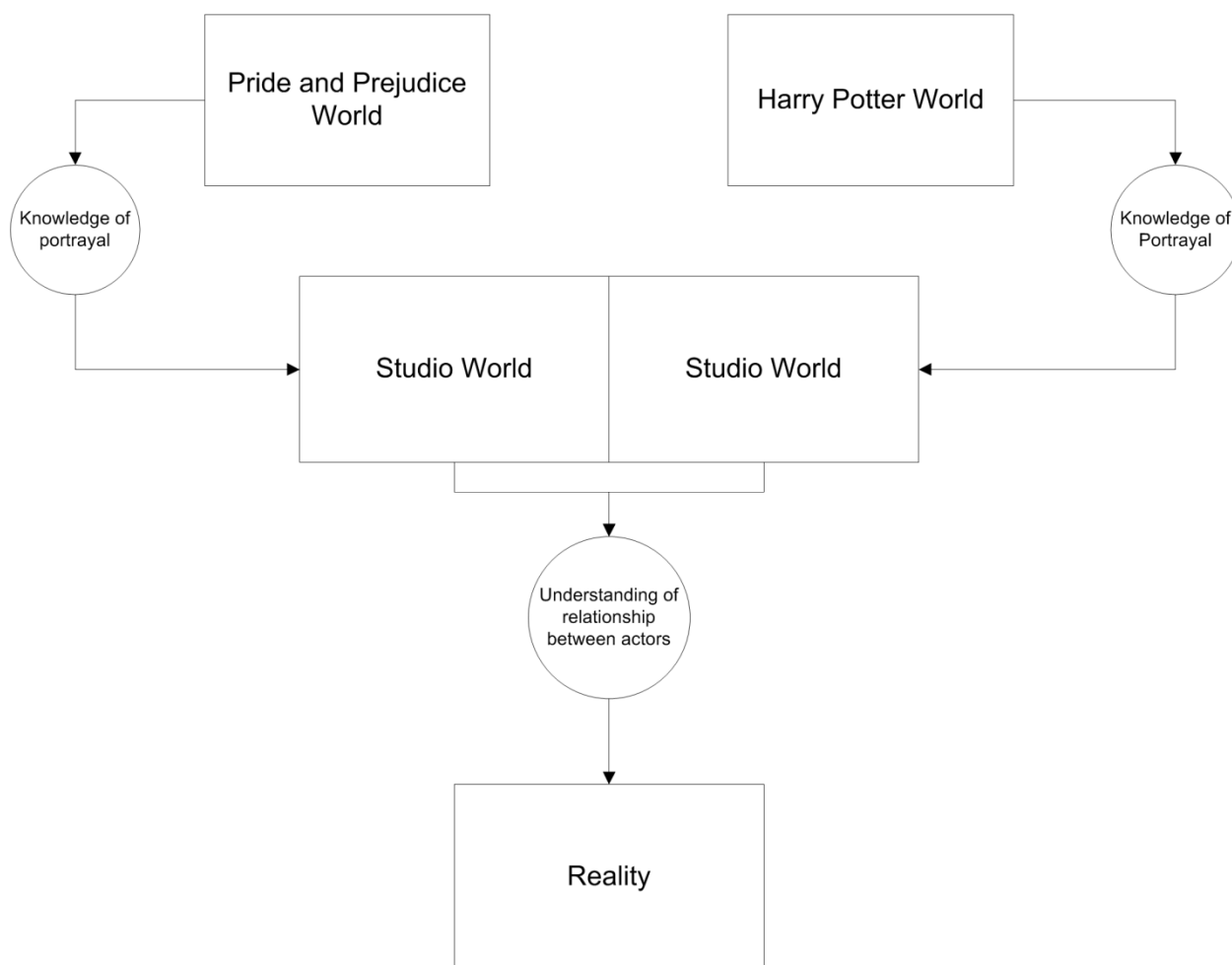
Figure 4.

Figure 4 was adapted from example 10, adding the mental spaces into the framework to better explain the process of meaning in the example sentence. Here, the mental spaces are not formed via utterance or action, but by assumption. The first mental spaces are links between the fictional character and the portrayal. The second is between the portrayal and the real life actor. The third is the understanding of the relationship which is then absorbed into the hearer's understanding of reality.

Mental spaces in this framework allow links between worlds. These links are required because, during a game, the three worlds are kept separate in the mind. Gary Alan Fine (1983: 3-4) explains that players deliberately separate knowledge of the players from the knowledge of the characters. Often players will know something about the setting before the character could, or know a monster's weakness when the character couldn't, so a barrier is maintained. Certain actions such as dice rolls can cause knowledge to transfer between worlds, such as in example 13 (some utterances omitted). Through mental space links an understanding is allowed, as well as malleability between the worlds which I will not go into here.

13. Rob: [the demon's weakness] could be lawful, can't they demons chaotic and good

Tim: want me to do it?

Sam: I think it's good and cold iron

Sean: Oh does anyone have knowledge the planes? That might tell you what you need

Sam: I think it's- is it cold iron or good? or cold iron and good

Tim: twenty

Sean: twenty, you don't even know what it is

Example 13 is an exchange relating to a demon lord the group are fighting. They need to find out the demon's weakness to defeat it, and while Sam knows what the demon's weakness is, his character does not. Sean (the game master) calls for a roll of "knowledge planes" in order to transfer the knowledge from the players to the characters. Tim fails the roll, however, so the character actually does not even know they are fighting a demon.

Figure 5 charts the process of knowledge transfer. The base of the process is the knowledge of the player in the player world. The knowledge is vocally expressed or questioned. There is then a call for action to instigate the transfer (sometimes this is simply acknowledgement from another participant), the action is performed and the result declared. The knowledge is then either transferred so that both player and character now have the knowledge within their base, or not where it is established that the character does not know what the player does. In this instance, all three spaces (represented by the circles) serve a purpose in the process.

Not all spaces are created to directly affect a base world. Mental spaces can be used alone, operate as their own self-contained mini worlds, used for jokes, discussing strategy or running through hypotheticals.
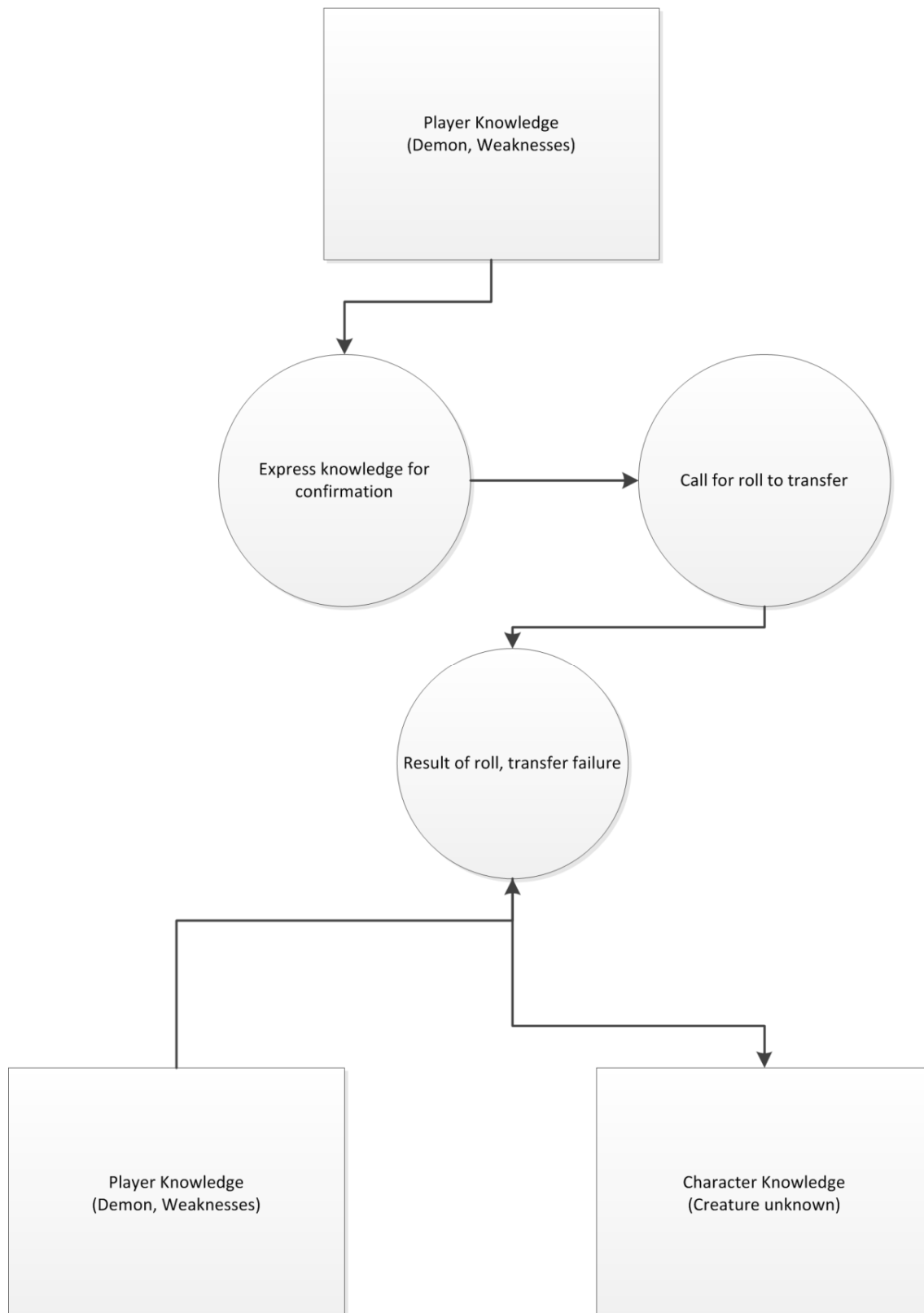
Figure 5.
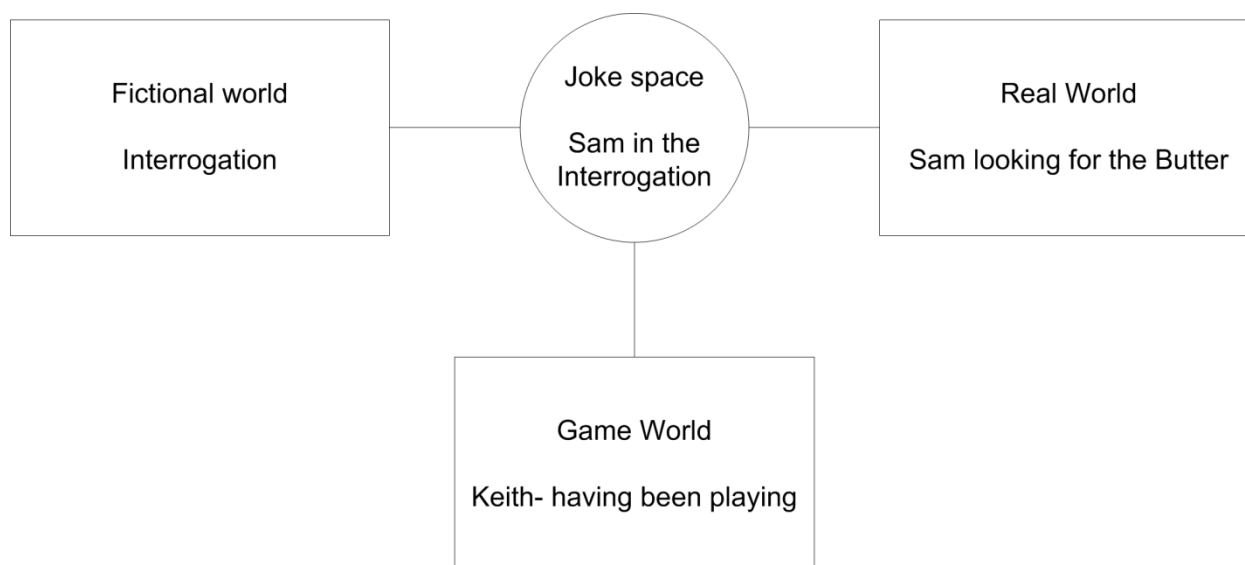
Figure 6.

Figure 6 shows the process of example 1, where a space is created not to change the world, but to make a joke. The space is not contributing to either world it is connected to, but is used only to allow the shifting of entities, that is, to shift Sam's occupancy from self to character. This example demonstrates the ability of mental spaces to be workable alone, without making a difference to the base world.

This combined system in its full form helps to explain certain issues that occur in designation in role playing. The theory of rigid designation for instance, can be adjusted so that it does not lose its fundamental flavor, but to include issues brought up in cognitive domains and shared designators. In this case, rigidity should be read as referring to all connected entities in a series of worlds. This rule allows for the source of a reference to be disconnected from the target referent. By adding the clause relating to world-sets, rigidity does not lose its meaning in more standard contexts, where the group of worlds is simply reality and its connected mental spaces in discourse. In example 14 below, a single participant (Tim) speaks in the first person, across multiple worlds:

> 14. Tim: I cast that spell to make a noise loud enough for [the demon] to hear but so noone outside the room can hear like some kind of dodododo like the Fur Elise... I don't want to poke him to wake him up I wanna keep my distance while he's awake and I have to mark that off as a spell

If we apply traditional rigidity here, the referent to all first person pronouns would be Tim himself, not his character or him in any other persona but the self. This is not the case. Tim refers to himself as a character, casting spells and keeping his distance from a Demon. He also refers to himself as a player, stating intent and marking off game sheets. By adapting the rule to include all worlds a speaker can occupy in a given context (the current series of worlds), we allow for world shifting, without losing the idea that the first person pronoun must always refer to the speaker.

## 5. Conclusions and Implications

In this paper, I have looked at some of the current theories of designation, and explored reference in complex, multiple-world systems. Although further study is required, from this investigation so far, I have devised a new framework for use on multiple worlds and worlds that exist only in a group shared imagination.

By taking the basic rule of rigid designation, the concept of blending, cognitive domains and an expansion on the statue rule, a new method of tracking reference using possible worlds and mental spaces was created.

This framework can be used outside a multiple world context, and requires only a simple rule: A designator can refer to all connected entities within the current series of worlds. The series of worlds would be dictated by context, covering all worlds that can be occupied within the context of the current discourse. It is hoped that this framework can eventually become a shared point of discussing complex and imaginary worlds systems across multiple disciplines.

### Acknowledgements

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