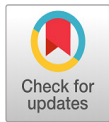


Are Irrealia Determined by Genres... for Real? A Corpus-Based Study on the Impact of Gaming Genres on the Localisation of Fictional Worlds¹



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Abstract

The localisation of lexical units specific to a fictional universe (*irrealia*) poses a challenge for translators, as they must recreate these highly creative elements in the target language. In the context of video game localisation, this phenomenon has received limited attention, particularly with regard to the manifestation of irrealia in different types of gameplay. This EN>FR translation research addresses this aspect through a quantitative and qualitative corpus study with three objectives: first, to determine whether irrealia are more or less frequent depending on the genre; second, to analyse whether gameplay influences the types of irrealia; and third, to study the translation strategies used for each type. To achieve this, two new typologies were established based on a corpus of 18 video games: one for the types of irrealia encountered and another for the linguistic translation strategies employed in the games. Findings suggest that the type of gameplay influences the frequency of irrealia, as well as the types of irrealia and the translation strategies used to render them. Findings stress the importance of considering the localisation of irrealia as both a worldbuilding tool and a significant element of gameplay – demonstrating that video game localisation must be an integral part of the game design process.

Keywords: irrealia, genres, corpus-based study, localisation, videogames

Los irrealia dependen de los géneros... ¿en realidad? Un estudio basado en corpus sobre el impacto de los géneros de videojuegos en la localización de mundos ficticios

Resumen

La localización de unidades léxicas específicas de un universo ficticio (*irrealia*) plantea un desafío para los traductores, ya que deben recrear en la lengua meta elementos con un nivel alto de creatividad.

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En el campo de la localización de videojuegos, se ha prestado poca atención a este fenómeno, en particular en lo que respecta a la manifestación de los *irrealia* en diferentes tipos de jugabilidad. La presente investigación en traducción EN>FR aborda este tema mediante un estudio de corpus, de carácter cuantitativo y cualitativo, con tres objetivos: primero, determinar si la frecuencia de los *irrealia* depende del género; segundo, analizar si la jugabilidad influye en los tipos de *irrealia*; y, tercero, estudiar las estrategias de traducción utilizadas para cada uno de ellos. Para esto, se establecieron dos nuevas tipologías a partir de un corpus de 18 videojuegos: una para los tipos de *irrealia* encontrados y otra para las estrategias lingüísticas de traducción empleadas en los juegos. Los resultados revelan que el tipo de jugabilidad influye tanto en la frecuencia de los *irrealia* como en los tipos de *irrealia* y en las estrategias de traducción utilizadas para su transferencia. Destacan la importancia de considerar la localización de los *irrealia* como una herramienta para la construcción del universo y como un elemento significativo del juego, lo que demuestra que la localización de los videojuegos debe considerarse parte integral del proceso de diseño del juego.

Palabras clave: *irrealia*, géneros, estudio basado en corpus, localización, videojuegos

Les *irrealia* sont-ils déterminés par les genres... réellement ? Une étude de corpus sur l'impact des genres vidéoludiques sur la localisation des mondes fictionnels

Résumé

La localisation des unités lexicales propres à un univers fictionnel (*irrealia*) constitue un défi pour les traducteurs, dans la mesure où elle exige la recréation d'éléments hautement créatifs dans la langue cible. Dans le contexte de la localisation des jeux vidéo, ce phénomène a été peu étudié, notamment en ce qui concerne la manifestation des *irrealia* selon les différents types de jeux vidéo. La présente recherche en traduction EN>FR s'intéresse à ce champ à travers d'une étude de corpus, à la fois quantitative et qualitative, qui poursuit trois objectifs : premièrement, déterminer si les *irrealia* sont plus ou moins fréquents selon le genre ; deuxièmement, analyser si le type de jeux vidéo a quelque influence sur les types d'*irrealia* ; et troisièmement, étudier les stratégies de traduction employées pour chacun. À cette fin, deux nouvelles typologies ont été élaborées à partir d'un corpus de 18 jeux vidéo : l'une pour les types d'*irrealia* rencontrés, l'autre pour les stratégies linguistiques de traduction utilisées dans les jeux. Les résultats montrent que le type de jeux influence la fréquence des *irrealia*, ainsi que les types d'*irrealia* et les stratégies de traduction mobilisées pour les transférer. Ils soulignent l'importance de la localisation des *irrealia* à la fois comme un outil de *worldbuilding* et un élément significatif du gameplay – démontrant que la localisation vidéoludique doit être considérée comme une partie intégrante du processus de *game design*.

Mots-clés : *irrealia*, genres, étude de corpus, localisation, jeux vidéo

Os *irrealia* são determinados pelos gêneros... é realidade? Um estudo baseado em corpus sobre o impacto dos gêneros de jogos digitais na localização de mundos ficcionais

Resumo

A localização de unidades lexicais específicas de um universo ficcional (*irrealia*) representa um desafio para os tradutores, uma vez que exige a recriação na língua de chegada de elementos altamente criativos. No contexto da localização de jogos digitais, esse fenômeno tem sido pouco estudado, particularmente no que diz respeito à manifestação dos *irrealia* em diferentes tipos de jogos. Esta

pesquisa em tradução EN>FR aborda esse tema por meio de um estudo de corpus de natureza quantitativa e qualitativa, com três objetivos: em primeiro lugar, determinar se os irrealia são mais ou menos frequentes de acordo com o gênero; em segundo lugar, analisar se o tipo de jogo influencia os tipos de irrealia; e, em terceiro lugar, examinar as estratégias de tradução utilizadas para cada tipo. Para tanto, foram estabelecidas duas novas tipologias com base em um corpus de 18 jogos digitais: uma referência aos tipos de irrealia encontrados e outra às estratégias linguísticas de tradução empregadas nos jogos. Os resultados revelam que o tipo de jogo influencia a frequência dos irrealia, bem como os tipos de irrealia e as estratégias de tradução utilizadas para sua realização. Eles enfatizam a importância de considerar a localização da irrealia como uma ferramenta de construção de mundos e um elemento significativo da jogabilidade, demonstrando que a localização de videojogos deve ser parte integrante do processo de design do jogo.

Palavras-chave: irrealia, gêneros, estudo baseado em corpus, localização, jogos digitais

Introduction

Fictional universes have become pervasive in our daily lives, and the concept of “worldbuilding” has emerged as an expected feature, as audiences seek consistent and creative worlds to make their own and immerse themselves in. As one of the most successful entertainment media, video games also offer deeply developed imaginary worlds that may be expanded across multiple installments and through transmedia worldbuilding. This phenomenon includes new objects, concepts, ideas, and characters that do not refer to existing elements, but to fictional entities requiring names in order to acquire a “concrete” existence within the fictional world. Drawing on the concept of “realia,” used in translation studies (ts) to describe extralinguistic culture-bound translation problems, Loponen (2009, p. 167) proposed the complementary notion of “irrealia” to refer to fiction-bound elements.

Game worlds offer a diverse landscape of narrative and ludic experiences. Players can explore multiple fictional worlds and engage with their imaginary universes not only through game visual features but also through their in-text *irrealia* (Martinkovič, 2022)². As game designers strive to create consistent and immersive worlds, in-game creative elements pose significant challenges to video game localisers, who must not only bridge the classical linguistic-cultural gaps of translation (Mangiron, 2016), but also recreate fictional terms which are presented as real (Bernal-Merino, 2015).

Since video games are classified predominantly according to their gameplay structure rather than their narrative genre (Arsenault, 2011, pp. 111–155), this distinction prompts critical examination into the treatment of irrealia within games and their localisation, particularly

regarding the influence of genre-specific conventions on localisation strategies.

Building on previous research on video games and irrealia (especially, Pettini, 2022), as well as studies on the translation of fictive terms (Frleta & Frleta, 2019; Poix, 2020; Ray, 2019a, 2019b; Wozniak, 2014), this article presents a corpus-based study examining the relationship between gaming genres and irrealia in an English-to-French localisation context, using mixed methods. The study begins by delineating its scope through a literature review focusing on irrealia and their localisation in video games (section 1). This is followed by a detailed explanation of the methodology, with particular attention to data selection, collection, and analysis, as well as to the typologies employed (section 2). Then, the results will be presented in terms of frequency and analysis of each type of irrealia previously defined (section 3). Section 4 discusses the findings, drawing on both quantitative and qualitative analyses. Finally, section 5 will be devoted to the conclusion of our study, its limitations and prospects for future research.

1. Literature Review

The concept of irrealia, introduced by Loponen to facilitate the study and description of fictional cultures through semiotic approaches, is relatively new in ts. If fictional worlds can be considered “functional, holistic constructs,” they should likewise be examined as holistic entities even though they do not factually exist (Loponen, 2009, p. 166). Loponen suggests to use the concept of *realia*, that is the “elements in the original [text] that are intimately bound up with the universe of reference of the original culture” (Florin, 1993, p. 122) and to adapt it to describe fictional referents: irrealia. The coined word describes the “set of fictional realia” which “[i]n fictional contexts [...] can be seen as the cultural anchors of the fictional culture, creating implicit and explicit references that can define the fictional culture

2 Following Martinkovič (2022), the plural form *irrealia* and its singular form *irrealis* are used in this article.

on multiple simultaneous levels” (Loponen, 2009, p. 167); in other words, they are “the lexical units for the representation of fictional discourse” (Moreno Paz, 2023, p. 127). Irrealia may be entirely detached from reality to build independent fictional worlds.

They become a useful tool for worldbuilding, not only in the primary sense which is “the paradigm shift from plot to worlds” (Roine, 2016, p. 17), thus elevating the creation of a whole new and coherent world as the first focus in creative fiction, but also—in Roine’s interpretation of the term—, “as a way of turning abstract and general thought experiments (or ideas) into a particular and therefore communicable form” (p. 18). In that regard, irrealia not only help build the “holistic constructs” that are fictional worlds, but they are also used to engage the audience in the worldbuilding (as a co-construction) and can be used as “a way of making sense of the abstract and general” (p. 18). The audience can enjoy the coherent fictional culture that has been deployed and that they can expand, thus enhancing the fictional experience, but they can also appreciate the artistry through a reflection on themselves and on the world.

Therefore, irrealia present a challenge for translators, as they do not have any direct referent in the actual world and may not have any equivalent in the target language (TL), though they may still contain traces of the language and culture of the authors through the back-and-forth movement between the fictional world and the real world.

Moreno Paz (2023) takes the concept further and considers irrealia a type of neologism, since they are translated through the productive word-formation patterns of the TL. Indeed, even though irrealia do not meet the criteria for neologisms (Cabr  , 1999³), it is

clear that they are a form of new lexical creation, whether as new formal units or as neosemes. For Stockwell (2000) neosemy “refers to meaning-shift. If a word shifts its meaning it can be said to be operating as a new word” (p. 119). Though it is a well-known phenomenon in neology, it can also be applied to fictional lexicon in which creators can use existing words to refer to non-existing referents. In that context, references to other titles, for example, are considered as *realia*: they exist in the physical world and do not refer to fictional elements.

In this regard, Moreno Paz suggests that irrealia should no longer be considered merely as “fictional referents,” but as an entire category of lexical creations, specific to fictional worlds. This idea can be found in *Science Fiction Studies* with the concept of “fictive words” (Angenot, 1979) or “fictive terms” (Ray, 2019b). Therefore, irrealia would be the global term, encompassing the concept of fictive terms, as they would include all terms that refer to the fictional cultures of the fictional worlds.

Moreover, as Barrera and Gordillo have observed “translating any given realia or irrealia will be impossible unless the translator also acquires a sound grasp of the cultural background to which those linguistic items belong” (2024, p. 43). Hence, in the case of fictional worlds, the only tools translators can resort to are the context and the morphosyntactic features of the lexical units, which is not the case for realia⁴. Therefore, the translation of irrealia must be approached through the lens of neology. Each *irrealis* needs to be considered within a context and then morphologically deconstructed in the ST in order to understand its

3 The criteria for neology as stated by Cabr   are: (a) spontaneous creation; (b) coexistence with synonyms and stylistic value; (c) formal conciseness;

(d) use of old and dialectal forms or borrowings; (e) existence restricted to a single language (1999, p. 206).

4 See Razumna and Movchan, 2023 for a study comparison between the translation strategies of realia and irrealia.

(connotative and denotative) meaning and its “role” in the fictional world. Translators have to choose the appropriate word-formation pattern in the TL to transfer all the features of the *irrealis* within a new lexical unit.

Moreover, works of fiction clearly transcend media boundaries: films are transformed into video games, novels into films, etc. Beyond the traditional cross-media adaptation, there is an exponential growth in transmedia universes, that is “the creative expansion of fictional storyworlds and the migration of audiences” (Freeman interviewed by Jenkins, 2017). Even though irrealia are not spontaneous lexical creations within a linguistic community, but a formal representation of fictional referents, they can be integrated and used extensively in the different media installments of the fictional worlds in question. As such, they create a formal link between transmedia works, linguistically implementing the extension of the same world. This may be a real challenge for translators as the audience expects terminological consistency in order to solidify the fictional world and reinforce its internal cohesion, thereby enhancing immersion within it.

However, Loponen’s concept was first only concerned with literature. Yet, as we have mentioned above, the concept of irrealia is to be found in all media (literature, cinema, video games, etc.) (Moreno Paz, 2023), whether in transmedia or unique works. In 2022, Pettini’s work brought out the importance of irrealia in video games’ fictional worlds. In her study of the localisation of three different video games, she presented a typology containing eight categories (individual, collective, intratextual metaludic, intertextual, geographical, ethnic, sociopolitical, and artifactual references). For each of them, she analysed the translation strategies used in order to investigate the relationship between the real world and the game world and how it “affects the nature of game texts and their translation” (Pettini, 2022, p. 176). Her pioneering work was a first

step towards larger studies on the importance of irrealia in video game universes and their localisation into other languages. Drawing on the typology she proposes, one of the questions that arises is the relation between irrealia and genres.

In the field of video games, Ramón Méndez González (2019) suggested taking a closer look at the translation of video game neologisms. However, the concept of irrealia is not addressed in the article and his typology creates an interference between players’ neologisms and fictional terms used to create game worlds. This limits the analysis and prevents irrealia from being considered as fully-fledged lexical objects within video games.

Some previous works already considered the relation between irrealia and narrative genres in literature (Kažimír & Martinkovič, 2021; Martinkovič, 2022), showing that “[...] each main speculative fiction sub-genre is defined [...] by the prevalence, or perhaps the prominence of a given type of genre irrealia” (Martinkovič, 2022, p. 90), which can thus “aid readers in interpretation and, more importantly, the translator in choosing appropriate translation approaches” (p. 90) even though there is hybridization of genre irrealia as there is with narrative genres (p. 91)⁵.

Pettini’s analysis also indicates that, beyond the narrative structure, video game irrealia may be intricately impacted by video game genres:

Indeed, if it is true that the war theme and the shooting genre of the three games included in this book represents a common ground on which parallels can easily be drawn, e.g. similar gameplay experience, similar fun factor, the multicultural geopolitical scenarios of the either realistic or imaginary conflicts

5 See especially Csicsery-Ronay, 2008, Stockwell, 2000 (among others) for a more specific look on fictive terms in science fiction.

simulated, and also the typical military lingo used by virtual soldiers (Patterson 2015), it is also true that the increasing degree of fictionality of their game worlds, by looking at the spectrum from left to right, or, vice versa, the decreasing degree of realism, on the opposite direction, is evidently mirrored in the quantitative and qualitative differences concerning the nature of textual material, exemplified in the realia and irrealia found in the corpus. (Pettini, 2022, p. 195)

Indeed, video game genres are mostly defined by the relationship between the game and the players, the “gameplay,” as it constitutes the main factor of the game experience (Arsenault, 2011, p. 116). Thus, video game irrealia could be impacted by both the narrative genre and the gameplay. It should nevertheless be noted that the issue of genres in game studies is extremely complex (Barnabé, 2014; Clarke *et al.*, 2017; Fernández Costales, 2012;) and that several typologies exist (see, among others, Aarseth *et al.* 2003; Apperley, 2006; Lee *et al.*, 2014). As Dor (2018) points out: “Genre categorization can use different criteria depending on which elements the classifier deemed relevant” (n. p.). In the context of the current study, three macro-categories of gameplay were chosen based on the following definitions:

1. Role-playing games (RPG), which

[...] refer to multiple forms and styles of play activities and objects revolving around the rule-structured creation and enactment of characters in a fictional world. Players usually individually create, enact, and govern the actions of characters, defining and pursuing their own goals, with great choice in what actions they can attempt [...]. There are often rules for character progression, tasks, and combat resolution. (Zagal & Deterding, 2018, p. 46)

2. Adventure and action games (AA), which

combine elements of both genres into one. While generally focusing on physical movement, they steal gameplay from the

adventure genre to serve the needs of the story of the game. [...] Generally, action-adventure games tend to identify themselves by their storydriven nature. (Feil, 2009, p. 29)

3. And strategy games, which

[...] are top down game[s] in which you gather resources to build and control armies of little guys. (Goodfellow, 2008, quoted by Dor, 2018, n. p.)

Yet, each genre calls for different textual typologies, a phenomenon which inevitably leads to the use of different translation strategies (Fernández Costales, 2012, p. 392). Even though it can be difficult to classify one game under one single category (p. 389), the textual and gameplay differences may lead to the following questions: are irrealia affected by the type of gameplay? Is the localisation of irrealia affected by the type of gameplay as “different types of games require different translation strategies” (Fernández Costales, 2012, p. 389)?

2. Methodology

In order to explore the relation between irrealia and genres, and facilitate a more nuanced analysis, a distinction has been drawn between gameplay genres and narrative structures. With respect to gameplay, the three macro-categories defined in the previous section have been included: role-playing games, action-adventure games and strategy games.

Choosing macro-categories may seem somewhat reductive, but it is necessary to ensure the comparability of the results. Furthermore, as pointed out in the literature review, it is sometimes difficult to determine the type of gameplay, as academics, players and studios do not always agree. For instance, in the data set, some would consider *Diablo IV* (Blizzard Entertainment, 2023) to be an action-adventure game, while others consider it to be an RPG (given the narrative and the high degree

of character customisation, it has been considered as an RPG in the corpus). In order to avoid bias, the genres were determined using the information provided on each game's Steam page (when applicable; if not, we used the information available on video game database MobyGames), as this allowed us to obtain the game tags (how players perceive the game) as well as the description given by the studios. When several tags were used, we took the most salient into account.

As irrealia are more likely to be found in universes denoting a high degree of fictionality, we have, in terms of narrative genres, made a differentiation between science fiction (SF) and fantasy (F), which will be the subject of further research. The narrative genres were defined through the plot, their description on official websites, and their setting. For example, *Mass Effect 3* (Electronic Arts, 2012) is clearly defined as an RPG in a science fiction setting featuring interplanetary travel and encounters with dozens of alien species. The game *Dishonored 2* (Arkane Studios, 2016), on the other hand, is defined as an action game in a fantasy setting, featuring characters with supernatural abilities.

In addition, in order to avoid as much as possible the transmission of referential elements, which are characteristic of transmedia works, only games that originated as video games (i.e.

no adaptations) were selected. It should nevertheless be noted that there was no separation between the irrealia specific to the games from irrealia that are shared through the megatext (the settings, themes, imagery, and conventions commonly found in science fiction or fantasy narratives), as the latter has been constantly evolving for years (Stroud, 2018, p. 101).

Furthermore, with regard to fictional universes developed in video game series, the latest games in the series were used, as they provide the most comprehensive fictional universe. *Mass Effect 3* (Electronic Arts, 2012) is, however, an exception. Indeed, this game was chosen instead of *Mass Effect Andromeda* (Electronic Arts, 2017), which is a spin-off. Table 1 illustrates the categorization of the 18 games used in the present study.

The last criterion used in the data selection is the nature of the localisation. Given that machine translation cannot accurately render irrealia and that the differences between human and machine translation in game localisation are major (Copet, 2025), only games that have been translated by humans have been chosen—even though it is not possible to exclude post-edited localisations from human localisations, as the process is not documented. This has been determined thanks to the credits available on *MobyGames* (2025).

Table 1. Classification of the Games Selected for the Study

Gameplay Types → Narrative Structures ↓	Action-Adventure	Strategy	RPG
Fantasy	<i>Dishonored 2</i>	<i>Age of Wonders 4</i>	<i>Diablo IV</i>
	<i>Tiny Tina's Wonderlands</i>	<i>Warcraft 3: Reforged</i>	<i>The Elder Scrolls: Skyrim</i>
	<i>Styx: Shards of Darkness</i>	<i>Age of Darkness: Final Stand</i>	<i>Neverwinter Nights 2</i>
Science Fiction	<i>Crysis 3</i>	<i>StarCraft 2</i>	<i>Mass Effect 3</i>
	<i>Destroy All Humans 2</i>	<i>Stellaris</i>	<i>Starfield</i>
	<i>High on Life</i>	<i>XCOM 2</i>	<i>Fallout 4</i>

2.1 Data Collection

The acquisition of textual data represents a recurrent challenge within the domain of video game localisation. Nevertheless, the totality of the text strings for each game under consideration has been extracted successfully. Given that the decompilation process and reverse engineering techniques are typically conditioned by the game engine, it will unfortunately not be possible to go into detail in this article.

However, readers are invited to visit the *Nexus* and *La Confrérie des traducteurs*⁶ websites, where they will find the tools (created by the modding community to which one of the authors belongs) needed to decompile the archives and extract the files in both languages. When the files were not directly available in the game's root folder, we used BMS and Python scripts, as well as decompilers such as *ESP-ESM Translator*, *CASC Explorer*, *TLK Explorer*, and *FModel*. It should nevertheless be emphasised that an extraction corresponds to the state of the game at a given moment, insofar as the content of the archives is always dependent on updates (DLCs, patches, etc.).

A range of methods was used to align the bitexts. When the files were tabulated (XML format) and the string IDs were provided, a combination of *INDEX/MATCH* functions in a VBA script was used to align the segments based on their IDs. Given that the number of segments is rarely identical from one language to another, this strategy was chosen because it makes it possible to isolate untranslated segments.

This, in turn, also ensures that the integrity of the data is preserved. A notable illustration of this is observed in *Tiny Tina's Wonderlands* (Gearbox Software, 2022), where the English "game" file contains 31,652 segments, while

the French version has only 21,016. For the games for which manual alignment was not possible (absence of string IDs), two softwares were used: *LFAligner* and *AlignFactory*. Each game was aligned with both programs, and the best result was systematically kept, according to the resulting benchmarks.

Following the alignment of the segments, a series of regular expressions (regex) was used for the purpose of cleaning the bitexts. It is important to note that no textual elements were removed during this process; only those parts of the code that are non-linguistic and invisible to the player were excluded (e.g. color codes, fonts), as retaining them would introduce bias to the calculation of relative frequencies (cf. *infra*).

Even though localisation data is not always ordered chronologically (non-textual linearity), the data were still randomised in order to mix the batches. For example, for *XCOM 2* (Firaxis Games, 2016), the data set contained a long list of proper names in succession (several hundred segments), leading to potential biases during the analysis of the types of irrealia, if not randomised.

Once the data had been randomised, aligned and cleaned, the irrealia had to be identified. To achieve this, the textual environment surrounding the fictional term was analysed, but also its string ID (where possible). In addition, the wikis related to each game were consulted and each irrealis up to the 100th different one (per game) was counted in order to get a (very partial) overview of the lexical variety of the games by calculating irrealia/tokens ratios. We chose to calculate irrealia in relation to the number of tokens rather than in relation to the segment, as the size of the latter is highly variable. We stopped counting the tokens at the segment containing the last irrealis examined. While this approach is admittedly simplistic, we believe that it provides an insight of their recurrence.

6 Their database (which contains non-official patches) was not used, as only official translations were considered.

2.2 Data Analysis

The 1,800 irrealia (100 per game), along with their corresponding translations, were manually annotated within an Excel spreadsheet, employing a process of inter-coder validation to ensure reliability. The elements under consideration have been analysed according to a linguistic axis (their type) and three translation-related axes (morphosyntactic, semantic and retention). Each of these components is described below.

2.2.1 Typology of Irrealia

The typology of the present study is based on Pettini's (2022), but the nature of the selected games and the larger amount of data required an expansion of the typology and additional subcategories. This section aims to define each element in the three-level typology. Nevertheless, classifying irrealia into the categories below requires careful attention to context, as the same item may fall into different categories depending on its use. In addition, some of them do not seem at first glance to belong to a fictional universe as they are neosemes (Stockwell, 2000, p. 119). For a more global view of irrealia typology, see the Appendix in which the first two levels are identified.

Individual references (IR) correspond to the designation of an individual entity. They are divided into two subcategories: characteristics and names. The first subcategory contains the properties that a character can take on as an individual. These include, among others, the concepts of class (*Rogue*⁷, *Anarchist*, *Ranger*), species (*Formian*, *Half-elf*, *Morlock*) faction (*Imperial Soldier*), and job (*Treasure hunter*, *Goop salesman*). Due to space constraints, we are unable to present the third level of each category comprehensively.

The second category includes only character names in the broad sense (surname, first name,

nickname). At the third level of the typology, we have also made a distinction between first and last names (*Karl Rasch*, *Vizargo Oriah*) and nicknames (*Daughter of Hatred*, *The Faceless*), as their treatment during the localisation process may be entirely different. The nickname subcategory encompasses all names that are not surnames or first names and which contain a real semantic load (*Claptrap*, *Rude Alex*, *Demonic Prince of Deceit*).

Collective references (CR) refer to communities and are also divided into two subcategories: groups and institutions. Groups contain all communities in the form of associations of characters, such as factions (*The Rebellion*, *Forgotten Ones*), clans (*The Covenant*), gangs (*L&L*, *The First*), folks (*Elven tribe*, *Furgles*), etc., while institutions refer to ergonyms (*Citadel Council*, *The Institute*).

It is important to note that there is sometimes a blurred line between certain irrealia belonging to this macro-category. Indeed, some could be classified as IR, particularly when the characteristic expressed is related to a group. For example, the two following sentences illustrate that an irrealis can be interpreted in different ways (see [1] and [2] from *Skyrim*). In (1), the *Imperials* designate the faction (CR), whereas in (2), *Imperials* refer to a characteristic of an individual (IR):

1. "Stormcloaks or Imperials. Either way, all they want is everything for free and you to lick their boots."
2. "Only true Imperials request that one."

The objects and resources (OR) category includes material elements (primary and secondary). Primary objects include items that have a direct and significant impact on the gameplay, such as weapons (*Iron War Axe of Dismay*, *Ripwave Missiles*), armour (*Daedric Helmet*), clothes (*Akenash outfit*), vehicles (*Dreadful Wale*), etc. This impact can obviously vary depending on the game. Here, given the number

7 All italicised examples come from our corpus.

of games, we considered primary objects and resources as being the most frequent.

Secondary objects are less visible to the player, such as books (*Tome of Terramancy*), flora (*Dust daisy*) material (*Corundum Ore*), technology (*Redundant field generators*), food (*Bloodworm meat*, *Nuka-grape*) potions (*Addermire Solution*), currencies (*Runes*), etc.

The skills and abilities (SA) category should be seen broadly and is also divided into two sections: direct and indirect. The former includes elements that have a direct and visible impact on gameplay, such as spells (*Fire storm*), skills (*Shadow move*), damage types (*Dark Magic Ability Damage*), effects (*Reduce PA Damage Mult Effect*) and attacks (*Dreadwind*), while the latter occurs more in the background and concerns passives (*Score multiplier*) or skill points (*Spell slot*).

Topography (T) refers to locations. Once again, this category has been divided into two parts: unbuildable and buildable. The first category encompasses locations in the broadest sense, they are already present in the game and do not depend on the player's will. These can include cities (*Fraeport*), districts (*Batista*), planets (*Alpha Marae v*), buildings (*the Eye*), rooms (*Throne Room*), other dimensions (*Overworld*), areas (*Infestation Source*), etc. The buildable category corresponds to locations that players can build themselves. Theoretically, the elements listed above can also be found in that category. However, in practice, they are limited and often correspond to buildings (*Starbase*) or structures—which often can also be used as weapons (*Blue Shard Thrower*).

The metaspeech (M) category contains elements that are not directly anchored in the fictional world, but which provide information about events taking place in it, such as quest names (*Quest: Road to Ruin*), tips (*Overseers and Panic*), rewards (*Vault Reward*), achievements (*Insignia of the Thief at gold level*), challenges (*Armageddon Challenge*), modes (*Goblin mode*),

gameplay mechanics (*Line of sight*), etc. These elements should not be confused with more general video game terminology, which includes settings (graphics, resolution, etc.), and are not irrealia.

Cultural aspects (CA) refer to any element (often anecdotal) related to the games' worldbuilding but has no major impact on the gameplay. This category is subdivided into two sections: material and immaterial. The former includes, for instance: media (*The New Atlantian*), rituals (*Glorious Blood*), activities (*Trungle-funk*), events (*Eternal Conflict*) and science and magic (*Tomb Worlds*). The second subdivision contains elements that are not material, such as mythology and spirituality (*Dodecalypse*, *Dark Prophecy*), language (*Neashushahmen*, *En Taro Tassadar*), time (*Month of Darkness*), and politics (*Defence Pact*). Some occurrences of the third level can be found in both categories, depending on the context. For example, sometimes, political elements can be either material or immaterial.

The last category includes (parts of) animated organisms (AO) and comprises any element relating to a (part of) a life form that cannot be directly related to a characteristic (IR) or an object (OR). These may include statuses (*Blood-marked*), body parts (*Phalangeopods*, *Alien cum*), or diseases (*Bluerage*). It is worth noting that such statuses only have physical characteristics and are not related to SAs.

Having established a typology of irrealia, the strategies employed in their translation were analysed in order to create objective description labels.

2.2.2 Translation Strategies

The study of the translation strategies has been divided into three distinct types of analysis all based on linguistic evidence: first, the morphosyntactic changes from the SL to the TL; then whether the former produces semantic changes or not, and finally the retention or recreation

of the irrealia. The translation strategies typology was mostly corpus-driven, but was also based on previous research (Berman, 1985, 2009; Chuquet & Paillard, 1987; Nida, 1964; Pettini, 2022; Ray, 2019b; Shuttleworth, 1997; Vinay & Darbelnet, 1958).

All the 1,800 irrealia have been investigated by examining these three layers of analysis, all of which are based on objective linguistic observations, described below. There may be translation strategies that sometimes overlap, but it only concerns 1.53% on the morphosyntactic axis and 0.94% on the semantic axis. For instance, *Old World* is translated as “avant la guerre”; there is both a transposition (the adjective is transformed into a preposition) and an amplification.

2.2.2.1 Morphosyntactic Translation Strategies

The morphosyntactic strategies concern all the formal mutations of the irrealia due to linguistic constraints or to the creativity of the translators. Twelve were noted in the corpus: first, morphosyntactic equivalence describes units that are translated using the same number of meaningful lexical units while respecting the linguistic constraints of the TL. For instance, *Bloodworm meat* is translated into “viande de ver de sang”: all the syntactic information of the English irrealia are found in French (*bloodworm* = “ver de sang”; *meat* = “viande”), though some connecting elements are required (“de”) in French.

Borrowing is a very productive word-formation pattern and it is substantially used in the translation of irrealia. Borrowed irrealia can be adapted (the translator alters the word to the spelling of the TL to facilitate the pronunciation), partial, or absolute. *Furgles* is used as such in French, for example, just like *Bedrock* or *Nuka-Grape*. However, *nanomedikit* is adapted to the French audience with the use of an accent (“nanomédikit”). Partial borrowing refers to compound irrealia in which some of the lexical elements are borrowed and others

are not: *Vim Brewing Terminal* is translated as “Terminal de maturation Vim” in French and if *Brewing Terminal* has been translated through a morphosyntactic equivalence, *Vim* is borrowed as a proper noun.

Transposition is another morphosyntactic translation strategy with two distinct levels: partial or absolute. Partial transposition concerns compounds in which some of the lexical elements are translated with a different part of speech: *Federation Fleets* was translated as “flottes fédérales”; the noun *Federation* is transformed into an adjective in French. Absolute transposition refers to irrealia that do not belong to the same part of speech in both languages: *goo* (n.) being translated as “gluant” (adj.) or *reincarnate* (v.) with “réincarnation” (n.). Absolute transposition also concerns morphosyntactic interchange: *Shadow Walk* was translated as “Ombre errante,” for example. Here, the adjective *shadow* is the modified noun in French, “ombre,” and *walk* is transformed into the adjective “errante.”

Concision was also noted in the corpus as some terms were translated through a linguistic economy into the TL. The semantic load is retained in the target *irrealis*, but using fewer lexemes. For example: *Forge facility* was translated as the single lexeme “la forge” which implicitly contains “facility,” as “forge” may be considered as a kind of facility. The same phenomenon can be noted with *dreadwind* which becomes “tourbillon” in French; the two lexical elements in the SL are transferred by means of a single one in the TL, but there is no semantic loss.

On the contrary, amplification is the result of a greater number of lexical elements used in the translated term: *The Vengeful Wilds* was translated as “Les terres sauvages vengeresses”; the term *Wilds* was rendered into French with two different lexical elements instead of one, “terres sauvages.” *Synth* was translated as “Synthétique;” in English, the term is

a contraction of the noun *synthetics*, but the translator had decided to use the full equivalent noun, amplifying the *irrealis*.

Some fictional terms were translated through a completely different word-formation strategy. This morphosyntactic translation strategy was named “Lexical creation process change” and may be partial or absolute. For example, *badass* was translated as “brutass.” The English occurrence is a neoseme: *badass* already exists in the English language, but its meaning has been transformed to fit into the fictional world. In French, “brutass” is not a neoseme but a morphological modification of the colloquial term “brutasse” to create a new lexical unit with a humorous and estranged aspect (Suvin, 1979). The lexical creation process change can also be partial if it only concerns one element of the *irrealis*: *Dislocator projectiles* became “projectiles de dislocateur,” for example. Here, *projectiles* was translated with an equivalent noun “projectile,” but *dislocator*, which exists in English, was replaced with an adjective used as a noun, “dislocateur.”

Finally, the last morphosyntactic translation strategy is the omission, whether partial (only some of the elements are missing) or absolute. The term *phantom arrows* was translated into French with “flèches,” omitting the noun *phantom*. Unlike concision, the meaning of the omitted lexeme is not contained in another, but entirely disappears from the target text. Absolute omission refers to irrealia that were not translated into French: *greebles*, *Banshee*, *shadowspawn*, etc.

2.2.2.2 Semantic Translation Strategies

Whether due to the morphosyntactic changes from English into French or to the lexical choices of the translator, the localisation of irrealia may also involve semantic changes from the SL to the TL. Eight different semantic translation strategies were noted in the corpus.

The most observed semantic translation strategy is semantic equivalence: the TL retains the semantic load of the source term; e.g. *space-faring races* translated as “espèces maîtrisant le vol spatial.” Though there is an amplification in terms of morphosyntactic strategy, the target *irrealis* delivers the same semantic load. The term *shapeshifter* became “change-forme,” and even though it was localised through a partial transposition (N+N becomes V+N), it is a semantic equivalence.

However, some irrealia were translated with semantic changes. One of those is generalisation, mostly through the use of hyperonyms⁸. *Warp base* was translated with “base de téléportation”: *warp* is a well-known technological invention in science fiction, popularised by the TV show *Star Trek*. It refers to a specific way of travelling through space, allowing people to go from one place to another in a flash. If it relates to teleportation, the source term is more precise as it delivers the way people are travelling (through *warping*) whereas in the target *irrealis*, only the consequence was included in the term. Here is another example: *biotic burst* was translated as “explosion”; the target term omits a part of the term as *biotic* was not translated, and the result is a more generic term (that is not an *irrealis* anymore).

On the contrary, the target term can use a semantic strategy of specialisation through the use of hyponyms. For example, *time slowdown* was translated as “dilatation temporelle.” Here, “dilatation” is a more technical term, and more precise than *slowdown* as the source noun only describes the consequence whereas the target term also refers to the phenomenon. It can also be observed in the following *irrealis*: *balloon* translated as “nacelle.” The source term describes the

8 Hyperonym and hyponyms refer to semantic relationships between a set of words: “The sense of hyperonym of a generic term can be said to ‘include’ that of the hyponyms or specific terms, e.g., *plant* covers *flower*, *vegetable*, etc.” (Hartmann & James, 2002, p. 70)

whole means of transportation whereas the target *irrealis* is more specific as it is a meronym of “ballon” (the part in a part-of relationship).

The target term can also be translated through the semantic strategy of ambiguation: the semantic load of the target *irrealis* can be more ambiguous, with its meaning potentially more obscure than in the source text. It is often the case with fictional terms that were translated through the morphosyntactic strategy of borrowing: *Freak*, *pickman* or *Brr-Zerker*. Nevertheless, ambiguation may also be noted when the target *irrealis* includes invented word(s) (whereas the source term only uses existing English words): *volatist bursters* translated with “détoneur volatiste.” Therefore, the target irrealia may not be entirely easy to understand.

However, the opposite was also observed with the semantic strategy of clarification (which often goes hand in hand with amplification). The semantic load of the target term is clearer than in the source text, or adds a layer of semantic information that was not available in the source term. *Necromancer* translated with “Nécromancienne,” for example, adds the gender of the character. This piece of information was not lexically available in the source *irrealis*. The term *psychokinesis* was translated with “pouvoirs télékinétiques”; adding a noun-adjective relationship in the target term provides an extra semantic layer, making the status of *psychokinesis* clearer in the game.

Semantic changes can also refer to cultural adaptation: the source term was transferred through a direct connection with Francophone culture or by using particularly idiomatic linguistic elements that truly localise the *irrealis* in the target culture. For instance, *Dust District* was translated with “Poussièreville.” The ending “ville” is a distinctive feature of topographic names in Normandy in France (Fauville, Deauville, etc.). The term *Eekum Bokum* in *Warcraft III* refers to a phrase pronounced in an invented language in another videogame (*Banjo Kazooie*).

It was translated into French with “Ouga-bouga,” a phrase used to imitate caveman speech in French.

One of the last semantic translation strategies is the semantic shift, whether partial or absolute. The target irrealia are translated through another perspective and present a mere side-step from the source irrealia. For example: *health gauge* translated as “jauge de vie,” or *disease treatment* translated as “salle des malades.” Both examples show a point of view change. A similar pattern can be observed with partial semantic shift: *gamma burst*, for instance, became “impulsion gamma.” The word *burst* describes something that springs suddenly whereas “impulsion” describes a force exerted to create a motion.

Finally, the last strategy is omission, whether absolute (the irrealia were not translated at all), or non-absolute (the irrealia were not translated as a fictional element): *Thieves Guild* was not localised in the French version and *barrow prison* was translated with the verb “emprisonner,” which is not an irrealis anymore.

2.2.2.3 Retention Strategies

The third level of translation analysis concerns whether the fictional term was retented or recreated into the TL. The retention strategy describes the localisations that retain all their salient features, including their status as irrealia: *JAW* translated with “JAW” or *Wand of Mass Healing* translated with “Baguette de soins de masse.”

The recreation strategy describes fictional terms that were completely redefined in the TL. First, it can describe terms that do not belong to the same irrealia category anymore: *Harbor-man* is in the IR category in the SL, but it was localised with “habitant de Far Harbor” in which the irrealis is “Far Harbor,” a topographic element. Then, it can also refer to fictional terms that lost their status as irrealia: *Overworld*

translated with “world”; *Creators* translated with “ils” or *First Special Operations* translated with “premier régiment.” Finally, it applies to irrealia that were not localised at all: *Rockwell*, *mini-map*, *spot check*.

3. Results

Among the 1,800 irrealia analysed, only 43 of them were translated through the recreation strategy, 19 of which involved complete omissions. Consequently, while the non-translation of irrealia proves relatively uncommon, the question arises as to how gameplay, irrealia type, and translation strategy interact. In the following sections, the results of the methodology outlined above will be presented.

Given the constraints of space, only the most salient findings will be introduced and examined. First, the relationship between gameplay and the distribution of irrealia will be considered from a quantitative perspective. Then, drawing on the proposed typology, the study investigates the relationship between gameplay and irrealia categories. Finally, the interplay between gameplay, irrealia types and localisation strategies will be explored, primarily at the macro-level of the typology, even though in

certain cases, the second-level will also be explored as it may reveal relevant patterns.

3.1 Frequencies

The frequency analysis indicates that irrealia do not occur as often from one gameplay to another, as illustrated in Figure 1. After performing a Shapiro-Wilk test and verifying normality using quantile-quantile plots, a non-parametric test (Kruskal-Wallis) was used to determine whether the distributions in the categories are identical (H_0). This test was preferred to an ANOVA because of the outliers and the non-normality of certain distributions.

The null hypothesis was rejected ($H = 7.36$, $df = 2$, $p < 0.05$), suggesting that there is a significant difference between at least two groups. Then, a Dunn post-hoc test (using Bonferroni's correction) was performed to compare more precisely the differences between the groups. The results indicate that there are major differences, particularly between the AA and RPG groups. This analysis therefore supports the intuitive idea that RPGs contain more irrealia.

Regarding the overall frequency, some games exhibit a higher repetition of identical irrealia

Figure 1. Distribution of Tokens Across Game Genres to Reach 100 *Irrealia*

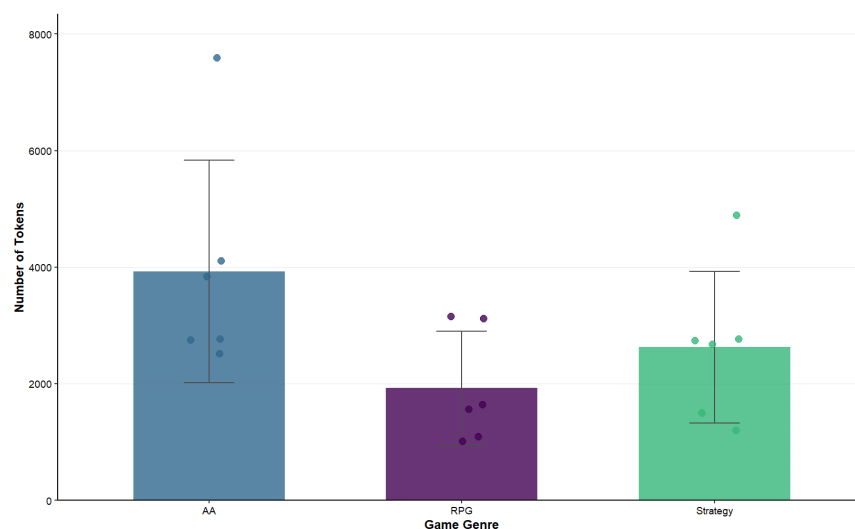
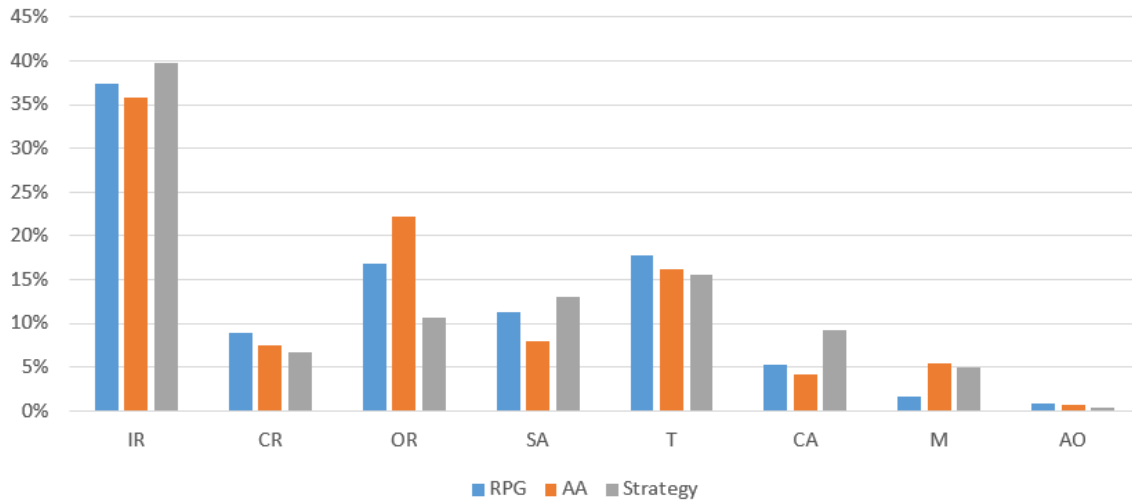


Table 2. Proportions of Irrealia Across Game Genres

	Irrealia (unique)	Irrealia (total)	Repetition Rates	Number of tokens
Strategy	3,81%	5,41%	29,58%	15751
RPG	5,19%	6,11%	15,01%	11557
AA	2,55%	4,32%	40,94%	23545

Figure 2. Distribution of *Irrealia* Types According to Gameplay Types

than others (cf. Table 2). The results clearly show that RPGs repeat identical irrealia less often than the other two genres, suggesting greater lexical variety. However, the phenomenon should be considered in relation to the average number of segments per game genre. Indeed, for the games analysed, RPGs have an average of 105,908.66 segments, while strategy games have 29,749.66 and AA games have 21,238.17.

3.2 Irrealia and Gameplay

Across all gameplays, some irrealia types are clearly more prevalent than others (see Figure 2): individual references, object & resources, topography and skills & abilities.

While individual references are the most commonly used irrealia across all genres, other types seem to be connected to specific gameplays. Objects and Resources, for instance, are more prevalent in AAs in which they play an important part of the players' adventure as

they will need to gather and craft resources in order to progress. However, this pattern is also observed in RPGs, suggesting that the difference may be explained by the composition of the corpus. Although the difference is less pronounced, topographic terms tend to be more present in RPGs, which is unsurprising as they offer more expansive maps to facilitate player exploration. Regarding Metaspeech, notable differences can be observed. It seems to be more prevalent in AAs (5.50%) than in RPGs (1.67%) and strategy games (5%).

However, the skills & abilities category is less present in action-adventure games than in strategy games, which may contradict initial hypotheses. This result may be explained by the strong presence of technology/ability trees in strategy games, adding up to the skills and abilities of the units.

At first glance, the cultural aspects category seems to be more common in the strategy genre,

but these results must be nuanced because 37% of the irrealia in *Warcraft 3* are CAS and most of them are locutions from invented languages: *Tayhuwaniwanga* or *Ishne'alo'porah!* If we disregard this outlier, there would be no significant difference between gameplay genres.

It would be beneficial to test the typology on another corpus of games, but the first results concerning the distribution of irrealia according to gameplay seem to support the idea that gameplay has an impact not only on the quantitative (cf. Figure 2) use of irrealia, but also on the type of irrealia used within the narrative. In this regard, the hypothesis that the types of fictional terms are influenced by the genre of gameplay is statistically significant ($\chi^2(12)=1.66$, $p < 0.05$). However, Cramér's V calculation shows that the effect remains modest ($V=0.13$). An examination of standardised residues suggests that: AAS over-represent OR, but under-represent SA and CA, whereas strategy games over-represent CA, but under-represent OR. RPGs under-represent M.

3.3 Irrealia and Localisation

As seen above, gameplay has a relative impact on the type of irrealia used within the fictional universes. Regarding localisation, the question is: does the type of irrealia influence the way they are localised? Is there a correlation between translation strategies and gameplay?

Figure 3 indicates that, although a similar range is observed across all gameplays, the nature of gameplay has an impact on the selection of morphosyntactic translation strategies. While the equivalence strategy is the most frequently employed across all gameplays, it is particularly prevalent in strategy games, where most irrealia have a clear impact on the game experience as they represent objects, units and skills the players must manage in order to progress and ultimately succeed in the missions. On the contrary, borrowing, the second most used morphosyntactic strategy, is more prevalent in adventure games and RPGs, where more irrealia may be used to expand the fictional universe

Figure 3. Morphosyntactic Translation Strategies Across Gameplay Types

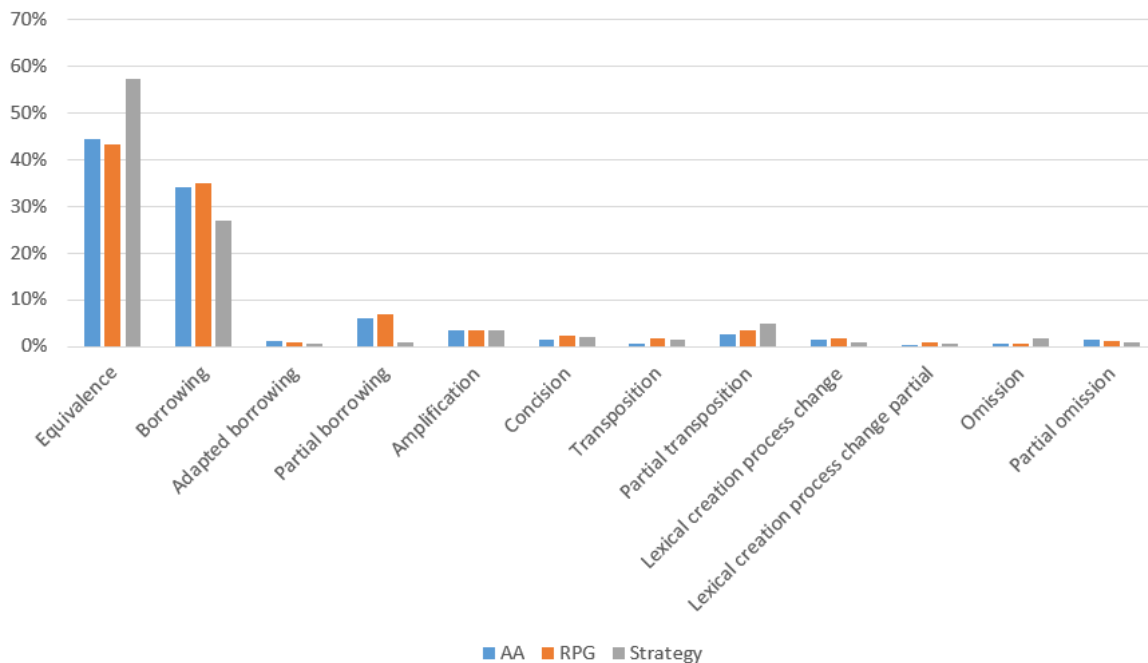
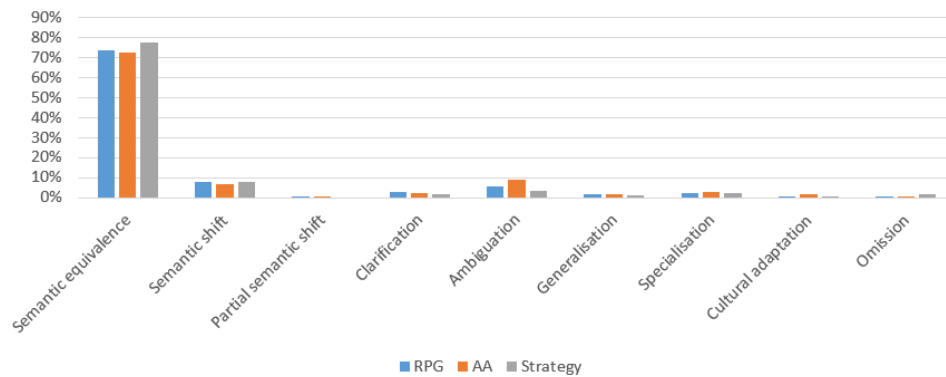
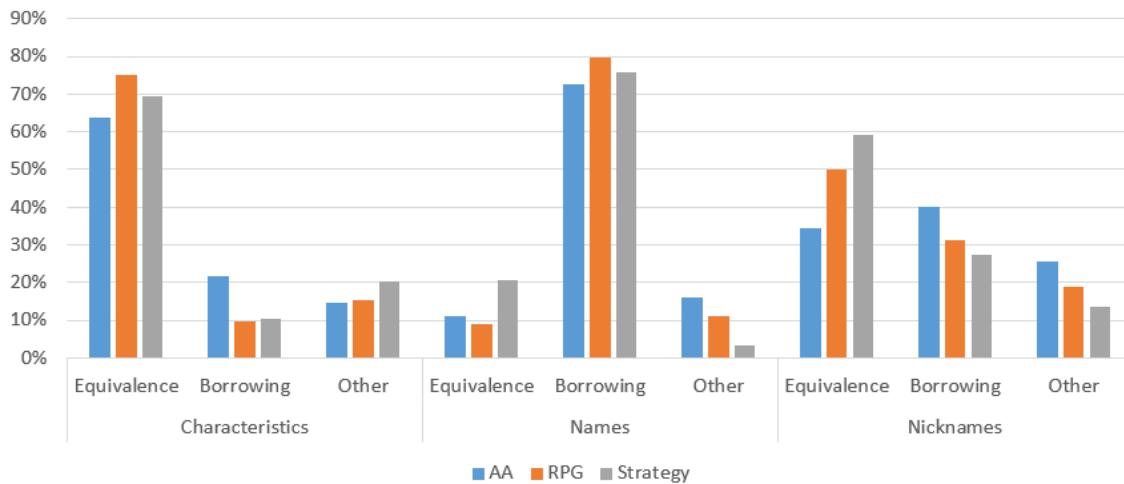


Figure 4. Semantic Translation Strategies Across Gameplay Types**Figure 5.** Distribution of Morphosyntactic Translation Strategies of Individual References by Category

without the objects/concepts/characters being of direct use for the players. Another significant observation is the strategy of partial borrowing: while AAs and RPGs exhibit a constant use, strategy games show minimal occurrences of irrealia translated through partial borrowing.

In Figure 4, a similar pattern can be noted: the most employed semantic strategy is semantic equivalence. However, the strategy of ambiguation may be interesting to investigate: it is quite significantly more prevalent in adventure games (and RPGs) than in strategy games. This may be explained in the same way as for the borrowing strategy: in strategy games, most

irrealia refer to objects or concepts that will be used by the players within the game. The terms need to be precise and reflect their in-game function without any ambiguity.

Most of the fictional terms are retained in the TL: out of 1,800 irrealia, only 43 are recreated, representing 2%. Out of the 42 recreated irrealia, 19 are completely omitted (43% and 1% of the total), 15 are generalised which, consequently, erases the irrealia ([3] and [4]) and others (17% and 0.40% of the total) were translated through different creation strategies (see 2.3.2.1).

3. *Wonderlands* > “royaume”

4. *Monolith* > “structure”

In the following sections, the localisation according to irrealia types and gameplay will be investigated in order to understand the interplay between irrealia types, gameplay and localisation.

3.3.1 Individual References

From a TS perspective, the translation of IR deserves special attention, as the strategies vary greatly depending on the levels described in the typology. Indeed, as the graph below shows (Figure 5), names that are not meaningful are generally translated by borrowing across all gameplays. Nicknames, on the other hand, are more often rendered through morphosyntactic equivalence rather than borrowing, even though AAs tend to use this strategy more frequently. As for characteristics, they are mostly translated using morphosyntactic equivalents in all genres.

Indeed, across all gameplays, characters' first and last names can be part of the cultural background of the source text and be used as such (or slightly adapted) in the TL as they do not have any semantic load (they may convey connotations, though). For instance, *Edwin*, *Theobald*, *Ksara*, *Kojira*, *Arami Stilton*, *Aelis Syren* remain identical in the TL, using a borrowing strategy without any semantic loss.

However, significant names, or nicknames, do carry a semantic load, and most are translated using the strategy of equivalence, thereby allowing French-speaking players to understand the meaning of the name.

5. *Bones* > “Zack”

6. *Thundermaw* > “Gueule-de-tonnerre”

7. *Lyssril the merciful* > “Lyssril la miséricordieuse”

Example (6) is a compound name, *thunder* + *maw*, and the French version uses lexical equivalents (“tonnerre” and “gueule”),

a preposition (“de”) and dashes to create an equivalent nickname. In (7), *Lyssril* was borrowed in the TL as it is not a meaningful proper noun. On the contrary, *merciful* was translated with the lexical equivalent “miséricordieuse.” Example (5) is quite different: the character's full name is *Bones Three-Wood*, it is a skeleton pirate whose name is a reference to 1. its status as a skeleton and 2. the character of Guybrush Threepwood in the classical adventure video game *Monkey Island* (1990). Its full name in French is “Zack Sacrum”: “sacrum” is a specific pelvis bone and refers to the fact that the non-playable character is a skeleton. “Zack” is also a reference to the non-living status of the character with the letter “Z,” commonly employed to refer to zombies in pop culture. The reference to Guybrush Threepwood is lost in French, but the name of the character is still humorous.

Most of the nicknames were translated through the strategy of semantic equivalence (73%), but some of them, when translated through borrowing, were transferred with ambiguity in French (37%) because the semantic load of the nickname becomes unclear in the TL (*Freak*, *Overwatch*, *Calptrap*).

It can also be noted with the “characteristics” sublevel: the most frequently used morphosyntactic strategy is equivalence, given its role in conveying character-specific attributes that are essential for player comprehension (see examples [8], [9] and [10]).

8. *Lightbearer* > porteur de lumière

9. *Serpent cultits* > sectateurs du serpent

10. *Locusts* > nuisibles

Many borrowings (across all gameplays) concern morphologically new lexical items in the SL: *Hydralisk*, *Urndot*, *Alderin*. The semantic load is similar in the SL than in the TL, even though the reception may be different.

3.3.2 Collectives References

Collective references in RPGs, AAS and strategy games were most often translated through morphosyntactic equivalence and (partial or adapted) borrowing and, in a semantic perspective, semantic equivalence ([11], [12], [13]). However, there are some examples of partial transposition [14], amplification (only in RPGs and strategy games) [15], and (partial) omission [16] regarding morphosyntactic translation strategies, and ambiguation [17], clarification [15], generalisation [16] and semantic shift [18] regarding semantic translation strategies.

11. *Miner's Family Committee* > “Comité familial des mineurs”

12. *Vladof* > “Vladof”

13. *Va'ruun Zealots* > “zélotés de Va'ruun”

14. *Federation Fleets* > “flottes fédérales”

15. *Primals* > “Zergs primordiaux”

16. *Ship Services Faction* > “Faction de maintenance”

17. *Xenofresh Fisheries* > “Xenofresh”

18. *The Syndicate* > Clan Seokguh

Example (11) was translated into French with the strategies of equivalence, both morphosyntactic and semantic. In example (12), the irrealis was transferred through borrowing into French as it is the name of a company. However, the term is not meaningful and the connotation is kept despite the borrowing (Russian-sounding name with the ending *-of*). Example (13) is also an example of semantic equivalence despite a partial borrowing as *Va'ruun* is an invented proper noun.

In example (14), the N+N structure was translated with a N+ADJ structure but the semantic load is unchanged. Unlike example (15) where *Primals* was translated into French with the translation strategy of amplification. One

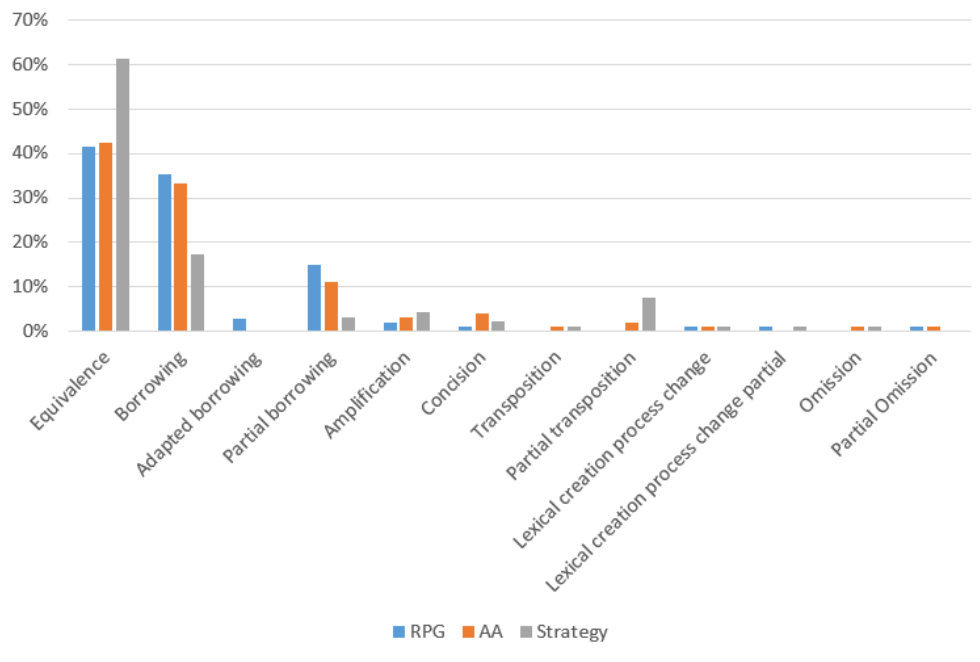
semantic element is added, “Zergs” and *Primals* (N) is transposed into an adjective, “primordiaux.” The French irrealis was translated using a semantic clarification strategy, as target players instantly identify the characters' alien origin.

However, some terms were translated using the morphosyntactic translation strategy of partial omission. In example (16), the element *ship services* was transferred as “maintenance,” omitting the lexeme *ship*. As a consequence, the French term, “Faction de maintenance,” similarly refers to a group that repairs certain materials, but players cannot identify from the name which materials the department services, and the term is semantically generalised. The space constraints in video game localisation may account for the partial omission.

The penultimate example (17) was translated using two morphosyntactic strategies: borrowing and partial omission. The first term, “Xenofresh,” remains as such but *Fisheries* was omitted. Within the context, players can infer that it is the name of a company. However, from the name, French-speaking players are not able to identify the specific type of trade “Xenofresh” is into, resulting in the ambiguation of the target irrealis. As for our last example, (18), *the Syndicate* refers to a *Starfield's* faction, the *Seokgug Syndicate*. In the extracted and analysed string, the French translation of the irrealis clearly highlighted the name of the faction using an amplification and a semantic shift: “clan Seokguh.”

Even though some CR irrealia were translated through distinct translation strategies, most of them, across the three gameplays, were transferred through morphosyntactic and semantic equivalence: 63% and 85% in RPGs, 68% and 84% in AAS and 71% and 86% in strategy games. Therefore, there is no significant difference between gameplays and translation strategies regarding CR irrealia ($\chi^2(12) = 16.38$, $df = 12$, $p < 0.05$).

Figure 6. Morphosyntactic Translation Strategies of Toponyms



3.3.3 Topography

Regarding topography, there is a marked divergence across gameplays ($\chi^2(12) = 33,12$, $df = 12$, $p < 0.05$) (see Figure 6). Indeed, statistically, RPGs and AAs use the strategy of borrowing to a greater extent than strategy games: 35% and 33% for RPS and AAS, versus 17% for strategy games. As a result, even though semantic equivalence is still the most frequently employed semantic strategy, the ambiguation strategy is significantly present in RPGs (9%) and AAs (12%), but not in strategy games (2%). However, partial transposition is much more prevalent in strategy games as well as semantic shift.

19. *Refined Quarry* > “carrière raffinée”

20. *Virophages* > “virophages”

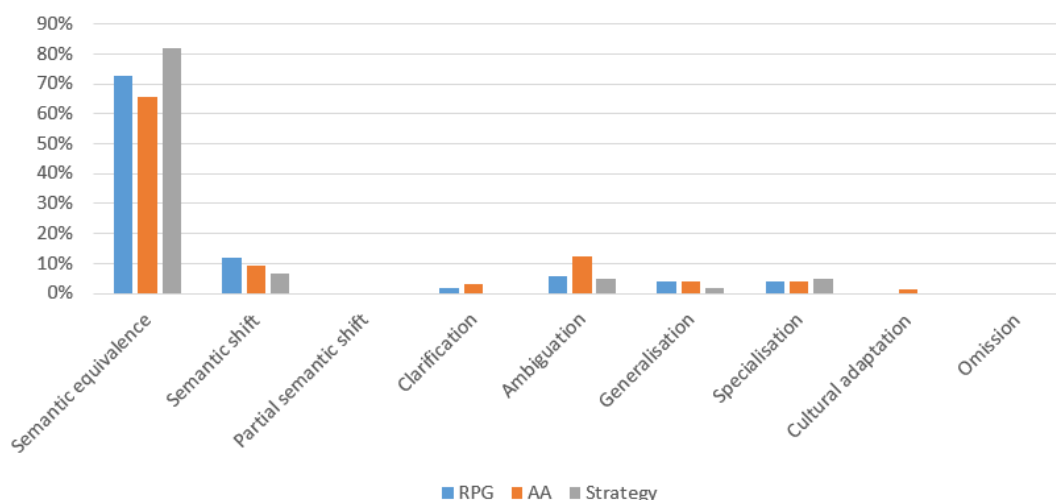
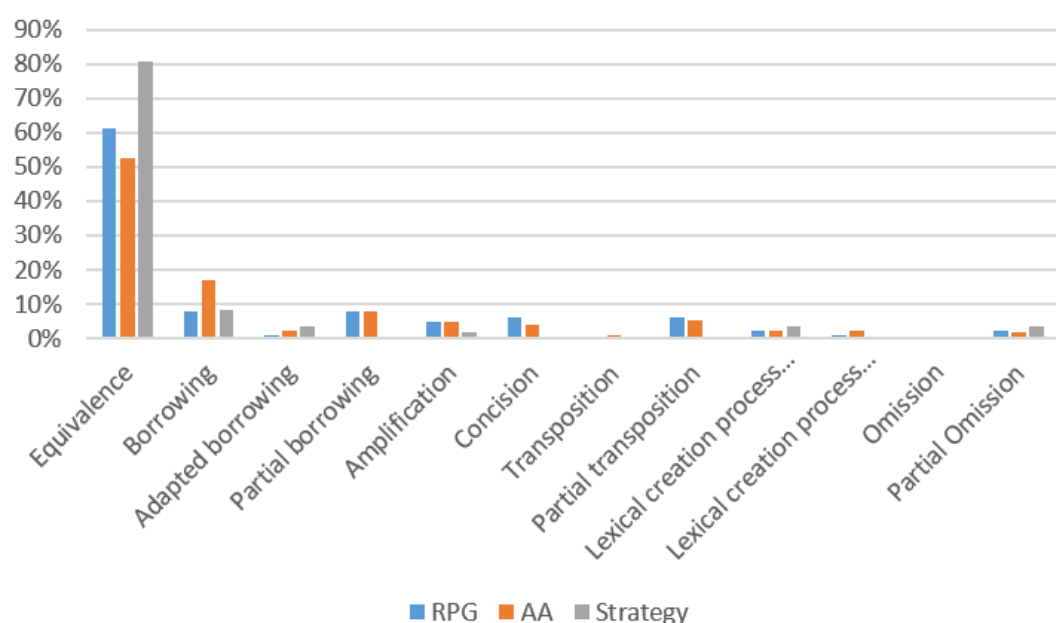
21. *Fallon’s Department Store* > “chez Fallon’s”

22. *Goodneighbor* > “Goodneighbor”

In example (19), *refined quarry* is a buildable structure and it was translated using

morphosyntactic and semantic equivalences: “carrière raffinée.” Target players have access to the same interactive information. The *irrealis* (20), *virophages*, is also a buildable structure describing an alien structure which infests human colonies and spawns infested Terrans. The term was created with two combining forms: *viro-* and *-phage*. The first one roots from the noun *virus* and the second is a well-known form meaning “to eat” (Sheehan, 2008, p. 59). Both combining forms are perfectly understandable in French as they are from Latin and Greek roots, the semantic load remains the same even though it is a borrowing.

Example (21) is particularly interesting as it was transferred using the translation strategy of concision, as well as ambiguation and cultural adaptation. Indeed, in English, the *irrealis* refers to the name of a shop in which one can buy a little bit of everything (a “grand magasin” in French). It was translated as “Chez Fallon’s,” a well-known French collocation for brands. However, it is more used for restaurants than department stores, hence the ambiguation. The

Figure 7. Semantic Translation Strategies of Objects and Resources**Figure 8.** Morphosyntactic Translation Strategies of Objects and Resources

same phenomenon can be observed with *Good-neighbor* (22) which was translated through a borrowing strategy, resulting in the meaning of the *irrealis* being unclear for players who do not speak English.

3.3.4 Objects and Resources

An interesting phenomenon to observe regarding the localisation of objects and

resources irrealia according to gameplay lies in the greater diversity of translation strategies (see Figures 7 and 8). Most ORs were translated using equivalence strategies across the three gameplays (61% for RPGs, 52% for AAs and 80% for strategy games); nevertheless, especially in RPGs and AAs (see Figure 8), the morphosyntactic strategies are more diverse even though they often conduct to a semantic equivalence. However, this phenomenon is

restricted to RPGs and AAS, as strategy games show less diverse translation strategies.

For example, in RPGs, beyond morphosyntactic equivalence, 17% (partial or adapted) borrowing, 5% amplification (23), 6% concision (24) and 6% partial transposition (25) were observed. In AAS, 27% (partial or adapted) borrowing, 5% amplification (26), 4% concision (27), 5% partial transposition (28) were identified. As discussed in section 3.2, ORS are less frequent in strategy games (only 61 occurrences in the corpus) since players are not required to collect resources or objects to the same extent. 80% of them were translated with morphosyntactic and semantic equivalences, though 8% were also transferred with the strategy of borrowing (29) and 6% with semantic shift (30).

23. *Warmonger Storage Plate* > “Plaque de stockage arrière belliqueuse”

24. *Corundum Ore* > “corindon”

25. *Diadem of the Golden Priest* > “Diadème du prêtre d’or”

26. *The Lander* > “module lunaire”

27. *Drop ship* > “transporteur”

28. *Pick up detector* > “détecteur d’enlèvement”

29. *Nanites* > “nanites”

30. *Shroud Tunnel* > “percée du Suaire”

Another interesting phenomenon concerning ORS in AA games is the occurrences of irrealia translated through the semantic strategy of ambiguation (12,5%), and most of them were translated with the strategy of (partial or adapted) borrowing.

31. *The Hawk* > “le Hawk”

32. *Disruptor* > “Disrupteur”

In example (31), the *irrealis Hawk* is not understandable for non-English-speaking players and can lead to ambiguation (it is a helicopter

in *Crysis 3*, but it is nonplayable, hence perhaps the choice to borrow the name of the vehicle in order to foreignise without compromising any semantic and interactive information). The *irrealis* (32) is a neoseme in English as the word *disruptor* exists (*disrupt-* + *-or*), but it has a new meaning in the game (a specific weapon in *Crysis 3*). In French, the verb “disrupter” does not exist, but the localiser used it as a new root and added a French agentive suffix “-eur” to create the *irrealis*, hence the lexical creation process changed. However, “disrupteur” has been used for a long time in translated science fiction texts (e.g. *Star Wars*, *Stargate*). Here, there is ambiguation if players are not familiar with the science fiction megatext.

3.3.5 Skills and Abilities

Skill and abilities irrealia were most frequently translated with morphosyntactic equivalence (76% in RPGs, 58% in AAS and 72% in strategy games) and borrowing (7% in RPGs and 8% in AAS). However, one interesting phenomenon is the total absence of the borrowing strategy regarding the SA in strategy games, whereas borrowing is the most productive translation strategy (with morphosyntactic equivalence) in most of irrealia types.

AA games show more diverse morphosyntactic translation strategies (33% are not morphosyntactic equivalence or borrowing) though they do not contain many SA irrealia unlike RPGs and strategy games.

33. *Psychokinesis* > “pouvoirs télékinétiques”

34. *Drop assassination* > “La chute assassine”

35. *Hive Mind* > “consciences collectives”

Example (33) describes a skill in *Destroy All Humans 2*. In French, the *irrealis* was amplified and clarified thanks to the noun “pouvoirs.” Example (34) was translated with a partial transposition (*assassination* [N] as “assassine” [ADJ]), and a semantic equivalence. The last

example, *Hive Mind* (35) was also transferred using a partial transposition (N+N became N+-ADJ), but there is a semantic shift between *hive* (a swarming place, in reference to nest of bees) and “collective” (a limited set of individuals with something in common).

3.3.6 Metaspeech

Metaspeech irrealia are not frequent across the three gameplays (even less in RPGs as seen in section 4.2) and most of them were translated through morphosyntactic and semantic equivalences (with a few occurrences of borrowing in strategy games and semantic shift in AAS and strategy games). Most of the irrealia transferred with borrowing were also impacted semantically with ambiguation as the terms are more obscure for non-English-speaking players: *StarJeweled*, *Overlord Title*.

3.3.7 Cultural Aspects

Though Cultural Aspects were mostly translated through morphosyntactic equivalence and borrowing, it is interesting to notice that, in the case of strategy games, most CA irrealia were actually translated with the strategy of borrowing: 52% of occurrences, whereas the most used semantic strategy is still semantic equivalence (*Ash'valanor* > “Ash'valanor”). As pointed out in section 3.2, the statistic is biased by the large number of phrases drawn from invented languages in *Warcraft III* (30 out of 58 occurrences).

3.3.8 Parts of Animated Objects

Animated objects (AO) are extremely rare (11 in total) and represent less than 1% of irrealia in each genre. Therefore, there does not appear to be any significant difference between genres. The few examples in the corpus were translated with morphosyntactic and semantic equivalence (and one semantic shift). Therefore, no notable trends were observed in translation strategies.

4. Discussion

From a quantitative perspective, it would be dangerous to claim that the more text-heavy a game is, the more irrealia it contains proportionally. However, the results presented in Section 3.1 clearly show that fictional terms are more frequent in RPGs (which are textually richer than other genres). This could largely be explained by the need for this type of games to enrich their fictional universes in order to maximise the player's immersion, whether by adding dialogues (or other narrative components) or by developing the lore.

Furthermore, the frequency of irrealia may also be determined not only by the degree of fiction, but at the same time by the type of gameplay, as this influences the textual structure. For example, a strategy game with very few cutscenes and a simple 2.5D perspective does not require the same writing approach. It is therefore highly possible that the strings are more or less concise depending on the gameplay.

Certain categories of irrealia demonstrate greater prevalence than others, a pattern consistently observed across all gameplay analysed. This result is consistent with the playful structure of video games (which fit into the gameplay categories defined earlier): they offer immersive narratives in which players will explore new locations, meet new characters and use resources to improve their skills and be able, at some point, to fight the antagonists and finish the game.

Some types of irrealia are not represented to the same extent within one gameplay category as within others. This is particularly the case with metaspeech. However, this does not mean that there are fewer quests or gameplay mechanics in RPGs. In fact, this discrepancy may be attributable to the sheer volume of text in the genre, which contributes to the immersion and video game narrative, and therefore may drown out the metaspeech.

Similarly, objects and resources are not distributed in equal proportions across different gameplay. The results (see Figure 2) clearly indicate that these elements manifest more prominently in RPG and AA games. This trend appears to reflect the gameplay mechanics of these genres, in which objects and resources assume a significantly more substantial role.

From a translation point of view, the diversity of translation strategies in RPGs and AAs may be explained by the diversity of objects and resources: the more games expand their worlds, the more likely players are to find different items so that they want to explore more and find more. Moreover, all objects and resources are not used in the same way and for the same purpose: there may be a distinction to make between direct usable objects and resources, and unplayable objects and materials that are part of the fictional world but are only discussed in the dialogue or seen in the background.

Localisers tend to translate individual references from a functionalist perspective, especially when they are significant. In other words, they employ morphosyntactic and semantic strategies that will allow the players to engage with the fictional elements while still accessing the information they may convey.

As far as topographic elements are concerned, the divergence across gameplays may be explained by the inherent differences in the use of topographical structures within them. In RPGs and AAs, topographic irrealia mostly describe structures or locations players can explore; in strategy games, most of the topographic irrealia describe buildable structures players need to build and sometimes upgrade in order to play and progress through the different missions. The topographic irrealia in strategy games are loaded with interactive information which must be transferred into the TL so that target players can quickly comprehend the function of the buildable structure. This functionalist divergence is clearly perceptible in

the source terms: many topographic irrealia in RPGs and AAs contain proper nouns (*World-Tree of Akenash*, *Ruins of Illusk*, *Arcadia's Cauldron*, *Iron Wolves Encampment*) or use invented proper nouns as toponyms (*Korrangar*, *Markarth*, *Myth Drannor*, *Albion*); hence the borrowing strategy. In strategy games, buildable structures (which represent 33% of the topographic irrealia in strategy games) are mostly compounds containing meaningful lexical elements, which indicate, more or less explicitly, the purpose of the structures within the gameplay.

As SA irrealia are items directly used by players within the game, localisers also follow a functionalist perspective. Indeed, as tools which must be mastered to ensure progression, they have to convey the same interactive and functionalist information as in the source text, hence the total absence of borrowing in strategy games.

Furthermore, the boundaries between genres are sometimes blurred, leading to classification difficulties. The study of semantic and morphosyntactic translation strategies has revealed some interesting results, but it has also highlighted the absolute necessity of studying reception, as Pettini (2022) pointed out. For instance, *firestorm* (CA) and *B&B* (CA) are both translated into French using the borrowing strategy. However, *firestorm* is completely foreignised in the TL, since non-English-speaking players cannot understand the meaning and the connotation of the *irrealis* (a military operation in *Crysis 3* involving the detonation of 100 kilos of thermite). On the contrary, *B&B* is a wordplay on the name of the pen-and-paper roleplaying game, *Dungeons and Dragons*, commonly abbreviated as *D&D*. In English, *D&D* and *B&B* are phonetically similar enough that English-speaking players understand the reference. The same applies in French, as “D&D” and “B&B” are phonetically similar. It may still be ambiguous as *D&D* is less known in French pop culture, but it is not specifically foreignising.

5. Conclusion

By proposing two new typologies and analysing 1,800 irrealia spread across three different gameplay genres, this study revealed that their frequencies, types and certain translation strategies varied according to gameplay forms. In terms of frequency, irrealia occur more frequently (and are more varied) in RPGs than in the two other genres, namely strategy and action-adventure games. Analysis of the types of irrealia revealed that certain categories were determined by the type of gameplay, particularly objects/resources and skills/abilities. Though morphosyntactic and semantic equivalences, along with borrowing, are the most frequent translation strategies, the analysis revealed two interesting trends: first, the type of irrealia can have an impact on the choice of translation strategy, especially for place names, nicknames, objects/resources and skills/abilities; second, the strategies used for certain categories may vary according to the gameplay. However, we have observed some significant distinctions between science fiction and fantasy games; further research is warranted to investigate the extent to which a game's narrative genre shapes the types of irrealia and their localisation.

With regard to the limitations of this research, it should be noted that, although our data set consists of 18 games, it remains limited and it would be particularly interesting to reuse the methodology on other games. Another limitation worth mentioning is the difficulty of determining the degree of fiction in a game. Given that it is difficult to find a perfect balance between all games, this may have influenced the frequencies. In addition, the use of macro-categories for categorising video game genres may have prevented certain trends from emerging or led to a slight bias. Accordingly, a study emphasising linguistic reception is therefore necessary to identify the translation strategies that may have an impact on how irrealia are perceived by target players.

Pettini's work (2022) paved the way for the study of irrealia in video games. While invented terms are not specific to video games, they are extremely prevalent in the media due to the very nature of games and the media's inclination to create fictional worlds. This study has demonstrated that irrealia are intrinsically intertwined with video game types and that this complex and close relationship also impacts localisation choices. This phenomenon clearly indicates that localisation also shapes world-building and must consider not only the fictional context, but also the gaming context.

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Appendix: Typologies of Irrealia

Types	Sublevel	Examples
Individual Reference	NAME	Soudeh (first name) Oculus (nickname)
Individual Reference	CHARACTERISTICS	Alderin (species) Bree-Zerker (class)
Collective References	GROUP	Spawns (units) Reapers (faction)
Collective References	INSTITUTION	Federation (organised faction) The Institute (organisation)
Objects and Resources	PRIMARY	Disruptor (weapon) The Lander (vehicle)
Objects and Resources	SECONDARY	Relay (artefact) Nuka-Orange (food and drink)
Skill & Abilities	DIRECT	Vaporize (attack) Darkness Generation (skill)
Skill & Abilities	INDIRECT	Wither (passive) Arcane Research (tree)
Topography	UNBUILDABLE	Char (planet) Hookbug Bay (district)

Appendix: Typologies of Irrealia

38

Types	Sublevel	Examples
Topography	BUILDABLE	<i>Refined Workshop</i> (structure)
Cultural Aspect	IMMATERIAL	<i>Badass</i> (mythology) <i>En Taro Tassadar</i> (language)
Cultural Aspect	MATERIAL	<i>Gleaner's Feast</i> (event) <i>SSNN</i> (media)
Metaspeech		<i>Assault</i> (mode) <i>Shadow</i> (challenge) <i>The Great Train Robbery</i> (quest)
(parts of) Animated Object		<i>Phalangeopods</i> (body) <i>Death Sleeve</i> (tattoo)

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