

Ludic Linguistics: A Revisited Taxonomy of Fictional Constructed Language Design Approach for Video Games

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ABSTRACT

Linguistic research on fictional constructed language (conlang) in video game dominantly employs an approach mimetically designed for fictions and films namely *a priori* and *a posteriori*. We argue that *a priori* and *a posteriori* are unable to comprehensively analyze the relationship between fictional conlangs with game elements. This research aims at constructing a new taxonomy on fictional conlang design approach that adheres specifically to video game. To do so, first, we analyze 62 game titles with 94 fictional conlangs to prove that *a priori* and *a posteriori* display deficiencies in pointing their relationship with video game elements. The next step is constructing a taxonomy based on the integration of Crystal's notion on ludic linguistics, language studies for playful purposes, and Aarseth's textonomy, the study on how texts are accessed. The research findings indicate that *a priori* and *a posteriori* fail to classify 29 fictional conlangs into either category and to indicate the relationship between the conlangs with game elements. In response to this failure, we construct a taxonomy consisting of three approaches namely interpretive, explorative, and configurative. These three approaches are able to indicate a structural relationship between fictional game conlangs, game genres, and the immersion level of the players and to patch the weaknesses *a priori* and *a posteriori* taxonomy has. Linguists, departing from this new taxonomy, might cooperate with game designers to design comprehensive conlangs, specifically designed for video games, which conform and correspond to the game genres and immersion levels.

Keywords: Ludic Linguistics; fictional constructed language; textonomy; taxonomy; video games

INTRODUCTION

Linguistic research focusing on fictional conlangs in video games requires specific approach that enables a comprehensive analysis on linguistic aspects, game elements, and relationships they weave. This specific approach is required since conventional approaches from Couturat and Leau namely *a priori*, fictional conlang design not based on any existing languages, *a posteriori*, conlang design adapted from existing languages, and a mixture of both (Bianco,

2004; Couturat & Leau in Smith, 2011; Douglas, 2007; Adelman, 2013; Peterson, 2015), is rooted from International Auxiliary Language (IAL) from which fictions have been highly employed. Moreover, this taxonomy is based on mimetic approach on linguistics and therefore is unable to answer the relationship between conlangs and the medium on which the language appears for a methetic relationship, a relationship between game elements to ignite playful element identification as implied by Huizinga (2014). Fictions and games have different mechanical and narrative characteristics. Thus, imposing fiction and mimetic rooted approach taxonomy into a fictional conlang of a game poses the problems of incomprehensiveness on the relationship certain conlangs have toward the mechanics and narratives of games.

In video game perspectives, linguistics aspects including conlangs of certain video games are dichotomically perceived, namely linguistic aspects as game mechanics and linguistic aspects as a form of narrative. Those perceiving linguistic aspects as game mechanics fall under the study of ludology, placing game as a mechanical structure (Frasca, 2007; Juul, 2011), and narratology, placing game as an alternative form of narrative (Apperley, 2006; Simons, 2007). Treating conlangs as game mechanics indicates the emergence of configurative responses from the players while treating conlangs as game narrative means hinting the players on the game story. Conlangs, in ludological and narratological perspectives, adjure the players to traverse them based on the playing procedures and medium of the games in order to complete the games as expected. *Final Fantasy X* and *X-2* are the examples. These Square Enix's Role Playing Games (RPG) franchises introduce Al Bhed, *a posteriori* conlang, designed not only as attributes for a fictional race but also for the players. They have to traverse the fictional world to gather twenty six Al Bhed alphabets known as Al Bhed Primer. The players have to explore every corner of Spira, the game's fictional world, and interact with its diverse inhabitants to complete the alphabets search in a cipher substitution manner. By cipher substitution means that the alphabets share the same code as real world alphabets, in this case it is Latin, with different sound and function. For example, *I love you* is *e muja oui* pronounced *eay moo-jaeah ohoee*. Gathering the alphabets completely, the players would be proficient in comprehending and articulating Al Bhed and would earn them in-game trophies. In the perspectives of textonomy, the studies on how texts are accessed (Aarseth, 1997; Eskelinen, 2012), the case of Al Bhed indicates that Al Bhed as a conlang is operated through interpretive, explorative, and configurative traversal modes. Interpretively, the games situate the players to only receive information to which interpretation is applied. In explorative aspect, the games direct the players to actively engage in the games to accomplish certain objectives, while in configurative aspect, the games allow the players to actively engage the games in a freer and more flexible manner than that of explorative.

In the case of Al Bhed, interpretive traversal mode occurs on the necessity for the players to interpret some Al Bhed expressions when the players have not yet gathered all Al Bhed Primer. Explorative traversal mode is visible from the requisite for the players to travel through the fictional world of Spira to acquire twenty six Al Bhed Primers. Meanwhile the configurative traversal mode in this case refers to the mechanical strategies and methods the players have to configure to meet the conditions to obtain the Primers. Fictional conlangs in fictions or films only revolve on the interpretive traversal mode because their textual medium passively locates the readers as information receivers only. Textual medium here refers to the medium where the readers interact with the characters and the medium where the characters interact with other characters. Printed media, television, and cinema are examples of the first medium while fictional worlds like Tolkien's Middle Earth or Roddenberry's Klingon Empire are the examples of the second medium. The fact that fictional conlangs are reciprocally intertwined with fictional worlds in which they occur (Fludernik, 2003) suggests

that different fictional worlds determine the complexities fictional conlangs have on their functions. In the case of video games, the fictional conlangs are more complex especially in influencing the players through the game worlds than those of fictions or films.

The influences of fictional conlangs in video game have suggested the presence of what Aarseth (1997) terms as the ideology of influence embodied in anamorphic and metamorphic manners (Aarseth, 1997; Eskelinen, 2012; Boluk & LeMieux, 2012). An example from *Al Bhed* might illustrate better the terms. In *Al Bhed*'s case, the players are unable to comprehend the language perfectly unless they have acquired all Primers hidden throughout the fictional world of Spira. This hidden status of the Primers is an anamorphic manner of influencing the players to explore the world in search of the Primers to complete their comprehension of the *Al Bhed*. After the twenty six Primers are procedurally acquired, consecutively the comprehension of the language by the players increases. The procedure to obtain each Primer and the consecutive comprehension yielding from the acquisition are what it means by metamorphic manners. In a simple word, anamorphic manners influence the players to act arbitrarily in response to the game information with implied hidden meaning. Meanwhile metamorphic manners influence the players to act procedurally in response to the game information without implied hidden meaning.

In the perspectives of conlangs, the aforementioned ideology of influence is projected through the degree of interactivity namely closed and open interactivity (Manovich, 2001) intended for mass consumption (Manovich, 2009). In a closed interactivity of video games, fictional conlangs generate bipolar and reciprocal responses between the players and the video games. Meanwhile, in an open interactivity, fictional conlangs are tripolar occurring between the players, the video games, and paraphernalia elements emerging from the relationship between the players and the video games. In Monolith Productions' *Middle Earth: Shadow of Mordor*, for instance, the Orcs have their own language called the Black Speech composed by Tolkien (1975). The Black Speech, as the projection of open interactivity, realizes its tripolar relationship in a form of a manual. This manual, as an additional product of the game, is accessible by the players to enrich their gaming experience and their gaming engagement. This tripolar relationship indicates that the Black Speech acts as the game's paraphernalia from which immersion denotes its relation to the ideology of influence.

In the perspectives of textuality, the immersion of the players is the result of optimistic ludicism, the acting out of possible play actions in the context of the roles of optimism, egocentricity, and lability in evolution (Sutton-Smith, 2009), containing within the game textuality. *Al Bhed* and the Black Speech would never have been projected and realized if optimistic ludicism with enticement had not been present within the fictional conlangs. This ludicism, in relation to textuality, signifies that its transferability requires a lingual tool sharing the ludic function as the fictional conlangs and the games. Ludic linguistics is the lingual tool assumed to be able to bridge the ludic functions of fictional conlangs and the games due to its ludic nature in lingual perspectives.

Departing from the complex functions of fictional conlangs in video games, this article attempts to answer three research questions. First, what fictional conlangs does the taxonomy of *a priori* and *a posteriori* fail to classify? Second, how does the new taxonomy of fictional conlangs for video games answer the weakness of *a priori* and *a posteriori* taxonomy? Third, what are the weaknesses of the new taxonomy?

LITERATURE REVIEW

FICTIONAL CONLANG DEVELOPMENT

Since Couturat and Leau in 1903 and 1907 classified conlangs, formulated for international language design and based on mimetic relationship with real languages (Smith, 2011), the studies on the necessity to construct a new fictional conlang taxonomy outside *a priori*, *a posteriori*, and their combination have flourished, revolving around criticisms on mimetic approach that become the basis of the existing taxonomy, media consideration, concerns on the users, and world building contextuality. Tolkien (1975), though never explicitly states what classification his fictional conlangs belong to, suggests that his languages are both a mix between existing languages and his own invention. This condition implies that mimesis takes a root on his invention of fictional conlangs but he further implies that his languages pose tripolar functions namely communications between characters, between characters and the fictional world, and between characters and the real world. This tripolar function indicates that mimesis should not operate on the forms of the conlangs only, but also on their functions. Branham (1983), departing from Tolkien's fictional conlang diversity, confirms what Tolkien implies by indicating that the Middle Earth's fictional conlangs functions as the source of conflicts in the story, sharing similar functions like those of real languages. This function implies that mimetic paradigm *a priori* and *a posteriori* hold does not operate in the form of the conlangs only but also on the functions. Further Branham's discussion hints that fictional conlangs are supposed not to be perceived from their structures but also functions.

Similar view is also shared by Malmgren (1993), discussing the fictional conlang of *Babel-17* that Samuel Delaney as the author also uses as the title for this science fiction, that emphasizes the importance of this fictional conlang as a linguistic novum that shapes the fictional world of the story. The status of fictional conlangs as linguistic novums with *Babel-17* as the example, as suggested by Malmgren(1993), indicates that fictional conlangs mimetically function as those of real world languages yet at the same time diegetically operates different functions in the fictional worlds. The presence of this diegetic function as what *Babel-17* has hinted indicates that mimetic taxonomy with real languages as the reference is not sufficient to explain specific functions of fictional conlangs in relation to their specific roles in their fictional world and the media to which the conlangs occur.

Corresponding to what Malmgren (1993) implies, Cain (2006) hints the relation between the media and the degree of linguistic variety the media could offer in designing the conlangs. This media format and fictional language relationship indicates that *a priori*, *a posteriori*, and their combined usage for all types of media is discriminative since it neglects the characteristics of certain media with the influences and roles they might have upon fictional conlangs. In his study, formulated into an encyclopedia, Cain (2006) does not reformulate the taxonomy but he indicates the roles of media upon the fictional conlang design with a large concern on films and a small portion of video games. Corresponding to what Cain (2006) hints in his study, Cheyne (2008) proposes what she terms as a created language, a sub taxonomy of conlangs, to which a specific concern on its relation to alien themed science fiction is taken into consideration. This consideration implies that a taxonomy on fictional languages is capable of being formulated from the departure point of the media to which the languages would appear. Departing from this consideration, Cheyne (2008) proposes also the taxonomy of created language functions namely created language as characterization, as an emblem, and as a cumulative alien encounter. In textonomy perspectives, Cheyne's concerns to formulate the functions of fictional languages indicate that she recognizes that fictional languages behave in accordance to user's functions. In the context of her study, those user's functions cover the language functions performed between

characters, between the characters and the readers, and between the characters, the readers, and the author. Though Cheyne's taxonomy (2008) concerns on the genre and media to which the conlangs are designed, her focus is solely on alien themed literary works with alien conlangs as the primary scope and her discussion has not yet incorporated mechanical aspects of the media. Cheyne, though focusing on alien conlangs and disregarding the mechanical aspect of media, has underlined other crucial implications namely communicative function or immersion level of the readers to the conlangs. These two implications are intertwined since degree of communication contributes to the level of immersion by users.

This concern on communicative functions as discussed by Adelman (2013) indicates that fictional conlangs behave based on the functions of the users and the media. This behavior strengthens the necessity to adopt a new taxonomy that could incorporate the users and media. Similar perspectives are also shared by the necessity about the concern on immersion level, the concern Ravyse (2014) attempts to highlight with regard to fictional conlangs. Taking the highly famous Nadsat, fictional conlang found on Burgess' *A Clockwork Orange*, suggests that the conlang, as what Cheyne (2008) proposes, has functions with regard to the reader's level of immersion. Those functions are positive and negative reinforcers with the former bringing the readers into the immersion of the conlang and the latter into the repulsion. This taxonomy on functions suggests that user's functions, as the core of textonomy, are of existence in languages which are fictionally constructed and therefore designing a conlang without heeding the functions the conlangs have poses a problem. Peterson (2015) and Dwyer (2016) referred to this as world building.

The concept of world building refers to the creation of fictional world comprised of elements similarly shared to the real world and language is one of the elements. This concept requires each design of fictional conlangs to functionally address the speakers, the readers, the authors, and the media of certain literary works. In video game context, fictional conlang designs should address not only this world building in the sense of its narrative but also the game mechanics the players have to engage with to immerse themselves in the world. This consideration is what Rosenfelder (2012) emphasizes as the adaptive function of conlangs with the characteristics the media have. He exemplifies how conlangs could be used as a puzzle in video games. This adaptive function implies that conlangs could mechanically define the game genre with language as the main focus as found in Exxos' *Captain Blood*, which relies totally on fictional conlangs to create puzzle-like challenge for the players. Departing from this mechanical function of conlangs in video games, designing conlangs with only mimetic approach as the basis would be irrelevant with the media the conlangs are designed for. Confirming what Rosenfelder (2012) implies, Sams in Megan (2016) indicates that the functions of fictional conlangs in games are to evoke ludic or playful experience through structural and proceduralist methods. This means-and-ends relationship further suggests that fictional conlang taxonomy should not be generalized without concerning the functions and media on which the conlangs appear since they display different aesthetics.

In relation to game aesthetics, the core of its aesthetics lies in the fictional conlangs designed for games that should concur with the aesthetic identity of the game genre; in this case it is mostly identical to Role Playing Games (RPG) and its derivative sub genres. Traditional RPG (TRPG), for instance, relies heavily on narrative aesthetics and therefore, as Gelinis and Gaider (2013) imply in the design of fictional conlangs for *Dragon Age* series that fictional conlangs should address the identity of each race to whom the conlangs are designed. Qunlat, the conlangs of the brutal cold warrior race called Qunari, is designed to sound harsh and laconic to address their brutal and cold sides. This identity building indicates the necessity for any invented language to correspond to the personality of the speakers. Shahbudin and Yusoff (2017), though departing from studies on blogs, confirms this by indicating the presence of relationship between personalities and invented words, an

indication which shares similarities to the Qunlat case. Different from the narrative centered traditional RPG, Massively Multiplayer Online RPG (MMORPG), though presenting a backgrounding narrative, emphasizes primarily the game mechanics. Thus, designing conlangs for this subgenre of RPG would be different from that of TRPG which focuses more on the narrative aspects. This necessity for a video game fictional conlang design to attend to game genre as the embodiment of game aesthetics occurs due to the fact that games are governed by rules and procedures and thereby relying on *a priori* and *a posteriori* taxonomy to design a fictional conlang, which signifies the presence of ignorance towards the media characteristics.

As perceived from the aforementioned studies about fictional conlangs and their taxonomy, it is revealed that Couturat and Leau's taxonomy of *a priori*, *a posteriori*, and their combination requires additions in regard to the functions and the media to which the conlangs are designed. Therefore, conlang taxonomy should also concern itself with the media type from which media-related specific functions are generated.

METHODOLOGY

RESEARCH APPROACH

This research is of qualitative approach with a specific focus on the combination of two qualitative game research approaches namely formal approach of game analysis as laid by Lankoski and Björk (2015) and information viewpoint approach (Sköldet et al., 2015). The formal approach is applied because this research discusses fictional conlangs as an intrinsic part of video games. Meanwhile information viewpoint is implemented due to the nature of traversal mode in video games that influences the players in engaging with the video games. The combination of these two approaches is procedurally executed into research procedures. First, selected game titles to reveal the presence of fictional game conlangs within each title were analyzed with formal approach. Second, those fictional conlangs were classified based on the taxonomy by Couturat and Leau (1903; 1907, in Smith, 2011) to reveal possible occurrence of fictional game conlangs incapable of being classified by the taxonomy. Third, applying Aarseth's textonomy and Crystal's ludic linguistics, the fictional conlangs were analyzed to reveal the structures connecting the fictional conlangs found from the games with the Couturat and Leau's taxonomy in the scope of ludic linguistics and textonomy by utilizing information viewpoint approach. Fourth, after the structures connecting the fictional conlangs and the taxonomy were unveiled, the approaches employed to design the fictional conlangs were revealed. Fifth, revealing the structural connection between fictional conlangs and game genres and unveiling the design approaches, a taxonomy was designed to depict the suitability of each design approach with the game genres and the level of gaming immersion.

DATA COLLECTION

The research data were fictional conlangs found in 62 game titles. Since each game title might have more than one conlang, they are classified based on their roles in the fictional world building as implied by Peterson (2015) and Sams in Megan (2016) on their invented language theories. The titles that become the sources of data were Capcom's *Breath of Fire IV*, Bioware's *Dragon Age: Origins*, *Dragon Age: Origins-Awakening*, *Dragon Age II*, *Dragon Age: Inquisition*, Bioware's *Jade Empire*, Gust's *Ar Tonelico: Melody of Elemia*, *Ar Tonelico II: Melody of Metafalica*, and *Ar Tonelico Qoga: Knell of Ar Ciel*, Square Enix's *Drakengard 2*, Square Enix's *Final Fantasy, II, VII, IX, X, X-2*, Square Enix's *Xenogears*, Bethesda's *Elder Scrolls*, *Elder Scrolls II: Daggerfall*, *Elder Scrolls III: Morrowind*, *Elder Scrolls IV: Oblivion*, and *Elder Scrolls V: Skyrim*, Ubisoft's *Far Cry Primal*, Ubisoft's *Mass*

Effect, *Mass Effect 2*, and *Mass Effect 3*, Sony Interactive Entertainment's *Ico*, Sony Interactive Entertainment's *Legend of Legaia*, Netherealm's *Mortal Kombat: Deception*, *Mortal Kombat: Armageddon*, Monolith Productions' *Middle Earth: Shadow of Mordor*, Sega's *Panzer Dragoon*, *Panzer Dragoon II Zwei*, *Panzer Dragoon Orta*, *Panzer Dragoon Saga*, Gravity's *Ragnarok Online*, Nintendo's *Star Fox*, Nintendo's *Super Mario*, Nintendo's *The Legend of Zelda: Ocarina of Time*, *Majora's Mask*, *A Link to the Past*, *Link's Awakening DX*, *The Windwaker*, *Twilight Princess*, Nintendo's *Xenoblade Chronicles*, Konami's *Suikoden*, *Suikoden II*, *III*, *IV*, and *V*, Blizzard Entertainment's *World of Warcraft*, Bandai Namco's *Tales of Eternia*, *Tales of Legendia*, *Tales of the Abyss*, *Tales of Xillia*, *Tales of Xillia 2*, Bandai Namco's *Xenosaga: Der Wille Zur Macht*, *Xenosaga: Jenseit von Gud und Bosse*, *Xenosaga: Also Sprach Zarathustra*, Exxos's *Captain Blood* are the game titles.

DATA ANALYSIS

The analyses were configured into three phases as suggested by Spradley (2016) namely domain, taxonomy, and componential analysis. Domain analysis revolved around the classification of the fictional game conlangs into *a priori*, *a posteriori*, and their combination from which x axis of the design approach taxonomy was constructed. In this phase, the fictional conlangs found from the games were classified into (a) conlangs with a complete set of oral and writing system and (b) conlangs that lacks one of the systems. Taxonomy analysis circumnavigated on the textonomic and ludic structures connecting the conlangs with the mimetic design approach from which y axis was established. The intersection between x and y axis, the componential analysis, would display the relationship between *a priori* and *a posteriori* taxonomy with the textual medium and ludic structures connecting the conlangs from which a methetic taxonomy was constructed.

FINDINGS

A PRIORI AND A POSTERIORI WEAKNESS

Examining 62 game titles with 94 fictional game conlangs, the findings indicate that in textonomic perspectives, *a priori* and *a posteriori* taxonomy fails to explain the classification of 4 fictional game conlangs functioning primarily on the level of script, 9 primarily on oral medium only, 14 primarily as a narrative device, 1 fictional conlang functioning as a central narrative of the game, and 1 fictional conlang as the gameplay core. Meanwhile the rest 65 fictional game conlangs are able to be classified into *a priori* and *a posteriori* taxonomy.

The first case was found in Terran Script in Square Enix's *Final Fantasy IX*, Yevon Alphabet in Square Enix's *Final Fantasy X* and *X-2*, Dovahzul in Bethesda's *Elder Scrolls V: Skyrim*, or script-like entity as found in Lemegeton in Monolith's *Xenosaga: Der Wille zur Macht*, *Xenosaga: Jenseits von Gud und Bosse*. This failure emerges due to the fact that Terran Script, Yevon Alphabet, and Dovahzul share a recognizable reference for Latin alphabet and at the same time employ a totally different style of any existing language alphabets. Thereby, the three fictional game conlangs are incapable of being classified into *a priori* nor *a posteriori*. These languages might be classifiable into the mixture of *a priori* and *a posteriori* in the scope of their structural forms but these languages have ludic functions to the game narratives and mechanics. This fact diminishes the classification of these languages into mixture since mixture focuses on the forms not functions.

Lemegeton, of which the name is derived from a book of demonology, reveals a difference beyond *a priori*, *a posteriori*, or the case of Terran Script, Yevon Alphabet, and Dovahzul. Lemegeton in *Xenosaga* series is a wavelength energy identified as words in the

material word; it is linguistics with different structural identifications both in immaterial and material worlds. Its status as wavelength energy enables Lemegeton to be classified into *a priori* but its structural identification in material world makes it eligible to be classified into *a posteriori*. The fact that the people of the material world in *Xenosaga* recite Lemegeton in a manner of incantation emphasizes its status as *a posteriori*. The uniqueness of Lemegeton lies in the idea of words as the identification of wavelength energy and thereby being *a priori* or *a posteriori* is a matter of projection. This implication, to some extent, is the criticism for the taxonomy itself since mimetic, the root of *a priori* and *a posteriori* taxonomy, is attempting to represent language by a means of comparison not to identify language by a means of its medium.

A priori and *a posteriori* taxonomy, besides failing to classify some fictional game conlangs functioning only as a script, also fails to classify fictional game conlangs functioning only in oral manners. This phenomenon is found in Yoshi, Booish, Bloops, Pidgit, Ravenish, Shroob, Shy Guy languages in Nintendo's *Super Mario* series, Cactuar language in *Final Fantasy X-2*, Fonic Hymn in *Tales of the Abyss*. These fictional conlangs fail to be classified into *a priori* nor *a posteriori* as clues indicating their classification are absent from them. The fact that the languages are recognizable only from the voice generates difficulties to identify their classification since logograph or phonogram is unidentifiable. Though sharing similar trivialities like that of discourse particles, the functions of these languages are of prominence in the game narrative and mechanics. In the perspectives of video games as computer mediated communicators, these prominent functions are in line with what Palacio and Gustilo (2016) suggest, though their study is not on games, that in computer mediated communication, discourse particles contribute to the meaning making between the communicators. In video games, the communicators are game avatars, gamers, and the games themselves.

The third case, narrative device function, is perceptible from Pabpab Language in *Breath of Fire IV*, Utan and Aegye in *Ragnarok Online*, Sindarin in *Suikoden* series, Dragon Language in *Drakengard 2*, Lufenian in *Final Fantasy*, Beaver in *Final Fantasy II*, Cetran in *Final Fantasy VII*, Edenian and Seidan in *Mortal Kombat: Deception*, Ra-Seru and Sim-Seru in *Legend of Legaia*, Ispanian in *Tales of the Abyss*, and Solaris in *Xenogears*. These fictional game conlangs are plot drivers and story relays in their games and, in the perspectives that any languages within a fiction are fictional conlangs, they co-exist with fictional game conlangs functioning as lingua franca in the fictional world. Thus, these languages functioning as narrative devices are conlangs within conlangs. This status implies that being in a secondary or even tertiary stratum, in the perspectives of ludic spaces, signifies the different level of complexities in presenting the language and thereby the aforementioned languages with narrative device functions do not have a complete set of linguistics apparatus. In the case of aforementioned game titles, even Pabpab, Dragon Language, Lufenian, Beaver, and Ispanian only lie on the domain of mythical presence. This mythical status compels the languages to remain unclassifiable into *a priori* nor *a posteriori* taxonomy.

The fourth case is a conlang that becomes the central focus of the game's narrative. This case is revealed from *Ar Tonelico* trilogy. Hymnos is a rhythmical conlang from which songs are composed and sung by a race called Reyvateil. In the perspectives of *a priori* and *a posteriori*, Hymnos, like any other video game conlangs, is analyzed only whether it is designed based on any existing languages or not. The analysis excludes discussions on the relationship between the fact that Hymnos is the focal point of the game, its complete set of linguistics system ranging from phoneme to its social use, and active engagement from the players in singing or karaokeing the conlang. In the case of Hymnos, the conlang is unable to be classified into *a priori* nor *a posteriori* as the script does not resemble any script from existing languages yet it follows the structure of Latin alphabets in the form of karaoke effect

like glyphs. Since the game theme is about melody, Hymnos' script is constructed to reflect the symbol of sound. Designed as such, Hymnos and the theme are holistically relayed to construct the whole game narrative. In the game mechanics with battle system as the focus, Hymnos' role is also contributive since Hymnos articulated through songs by the Reyvateils is utilized in a magic like fashion. These roles Hymnos takes points out that the player's immersion to the game is a primary consideration the conlang designer takes. The fact that Hymnos is articulated through a singing like fashion generates a question whether existing languages *a priori* and *a posteriori* hold refer to languages in the real world or referring also to the ways the languages are orally and writtenly expressed.

The last case is alien language in Exxos' *Captain Blood*. In the game, the players have to speak with aliens in their language. To do so, the players have to input some symbols from keyboard like interface. Successful conversation gains the players trust from the aliens and they are eligible to move to the next stage. Treating a conlang as the core gameplay indicates that the game does not perceive conlangs only as a narrative nor mechanical attribute but as a total immersion for the players. The problem of *a priori* and *a posteriori* in the case of *Captain Blood* is that in narrative perspectives, the alien language is *a priori* because it does not reflect any existing language. Yet, most of the symbols the players have to input to interact with the aliens reflect the symbols in the real world like the symbol of heart and dollar and this fact would make the alien language fall into *a posteriori*. The presence of *a posteriori* trait for an *a priori* conlang indicates that the immersion the game offers is not fully alien. The background knowledge the players have upon the familiar symbols is expected to trigger a language pattern in the players' minds and to experiment the pattern in a trial and error manner. Performing this ensures the replayability of the game as the players will keep on trying to find the correct pattern. This situation indicates that *a priori* and *a posteriori* are both utilized for a single conlang in a mechanical and narrative manner to usher a total immersion of the players.

The five aforementioned cases signify the necessity for a non *a priori* and *a posteriori* taxonomy. Textonomy based taxonomy, due to its nature of identification not representation as found in *a priori* and *a posteriori*, is able to solve the problems the five cases above face.

TAXONOMY DESIGN

Borrowing Aarseth's (1997) terms on textonomy focusing on the medium and traversal modes namely interpretive, explorative, and configurative with some modifications, the taxonomy is designed to answer the cases found above. Interpretive approach locates the conlangs in the domain of hermeneutic interpretation. Applying interpretive approach indicates that the fictional game conlang design is treated on the lowest hierarchy of reading and playing a game and thereby it positions the players as passive users; the players only receive information about it and they have no control upon it. The case of narrative device purposed conlangs, as discussed before, is explainable through this approach. Due to its function as plot drivers and story relays, they project interactivity with the players in passive manners only. This condition suggests that conlangs designed from interpretive approach has a closed interactivity in its design and thereby the ludic functions, realized through ludic linguistics, of this kind of interactivity are of narrative than mechanics. Due to its emphasis on narratives, in the perspectives of ideology of influence, the type of influence is anamorphosis since the players have to await the story to progress to understand the conlangs. This condition implies that linguistically the roles of ludic linguistics in this interpretive design are of patterns rather than preferences because the players are forcibly immersed into the game leaving no options to control upon it. Deriving from this role and the degree of interactivity, it is assumed that the textual medium fit for the conlangs designed

through this approach is RPGs, visual novels, fighting games, action games, and other genres stylized with narratives.

The second approach is explorative. This fictional conlang design approach positions the players as limited active users. The limited status occurs due to the fact that the conlangs allow the players to explore the conlangs in limited manners. The example for this approach is the case of fictional conlangs functioning only in oral manners. Fictional conlangs in *Super Mario* series, Cactuar Language in *Final Fantasy X-2*, and Dragon Language in *Breath of Fire IV* are classified into explorative design approach since these languages, in the games, allow the players to explore the conlangs by engaging the speakers of the languages in a battle or in a mission. This limited way of exploration, through fighting or accomplishing a mission, is the essence of explorative approach. The ludic functions of this approach are of limited combination of narrative and mechanics as the degree of interactivity is that of open type with anamorphosis in a higher level of interactivity than that of interpretive approach. This open interactivity requires a larger ludic space and thereby the textual medium considered to conform this fictional game conlang is RPG and its derivative sub-genres and action games only. These two genres provide a vast ludic space allowing the players to explore the conlangs through an audiovisual engagement. This vast ludic space, in regard to ludic linguistics, provides not only patterns on comprehending the conlangs and the games but also preferences as the players are linguistically provided with opportunities to engage in the language learning or not. This similar condition is visible also from the last approach with a more open preference for the players.

The third approach, configurative approach, is intended to design a fictional game conlang positioning the players as active players. By being active implies that the players have a wider chance to immerse themselves and control the use of fictional conlangs by exploring the game world. This approach, for instance, is visible from the design applied on Bethesda's *Elder Scrolls V: Skyrim's* Dovahzul. The players have to explore the massive open world of the game to acquire the Dragon language pieces by pieces and once the players collect them all, they are granted Dragon power. The players are also able to learn the translation after obtaining a book on Dragon language entitled *Dragon Language: Myth No More* from several places in the game world. Possessing the book, the players could configure the Dragon language manually and translate them into English. The same case with a different method of translation, the substitution cipher, is found from *Final Fantasy X* and *X-2's* Al Bhed.

The conlangs designed by applying a configurative approach, due to its textonomic immersion, commonly have an online translator composed by fans. Al Bhed, Dovahzul, the Black Speech from Monolith Productions' *Middle Earth: Shadow of Mordor*, Melnic from Namco Bandai's *Tales of Eternia*, Long Dau from Namco Bandai's *Tales of Xillia* and *Tales of Xillia 2*, Hylia from Nintendo's *Legend of Zelda* series, Saurian from Nintendo's *Star Fox*, Qunlat from Bioware's *Dragon Age* series are the examples of fictional game conlangs with fan made online translators to English. The fact that it was the fans that create online translators signifies that the level of immersion of this conlang is of the highest among the other conlangs. It further suggests that designing conlangs based on configurative approach requires a large ludic space. RPGs especially in an open world design are the genres considered to be in accordance with the textonomic immersion of a configurative approach. It finally suggests that the ideology of influence a configurative approach has is that of both anamorphosis and metamorphosis. The former occurs when the conlangs are translatable within the games and the latter occurs when the conlangs require extra game content to learn them.

Departing from the discussion above, a relationship between fictional game conlang design approach, textonomy, ludic linguistics and game genre is recognizable. The following table might help illustrate the relationship.

TABLE 1. Textonomy based Fictional Conlang Taxonomy

Approach	Textonomy		Ludic Linguistics		Genre	Immersion
	DI	II	LF	R		
Interpretive	Closed	Ana	Nara	Pat	Any genre with stories	Low
Explorative	Open	Ana (higher level)	Nara-Mecha	Pre	RPG Action Games	Mid
Configurative	Open	Ana-Meta	Nara-Mecha	Pre	RPG	High

DI: Degree of Interactivity *Ana: Anamorphosis*
II: Ideology of Influence *Meta: Metamorphosis*
LF: Ludic Functions *Nara: Narrative*
R: Role *Mecha: Mechanics*
Pat: Patterns *Pre: Preferences*

Data in table 1 suggests that the level of immersion players experience to the fictional game conlangs depends on the approach the designs take. Due to its nature of closed interactivity and anamorphic ideology, interpretive approach is linguistically and primarily embodied through narrative and pattern based ludic linguistics. Thereby, interpretive approach results in fictional conlangs with low level of immersion. Meanwhile, explorative approach, due to its open interactivity and anamorphosis of higher level than that of anamorphosis in interpretive, has a medium level of immersion. This level of immersion indicates that some elements of textonomy and ludic linguistics share a similar level between interpretive and configurative. Dual focus of narrative and mechanics and preference roles in expressing the language for play are similar to that of configurative approach while anamorphosis shares the same ground as interpretive. Configurative, which is the last approach, is of high level of immersion due to its open interactivity, double ideology, dual ludic function, and preference role. These three approaches to design fictional game conlangs, as shown in table 1, dominantly require large ludic spaces and thereby RPGs are of preference to implement the fictional game conlangs.

TAXONOMY WEAKNESSES

The proposed taxonomy displays two weaknesses. First is the weakness related to the absence of game platform inclusion in the taxonomy. The point to consider is that whether game platforms play significant influences in the fictional conlang designs or not due to their differences in graphics performances. The second weakness exposed is the exclusion of RPG subgenres in the taxonomy. This exclusion signifies less detailed discussion on the RPG subgenres the fictional conlang design approaches apply to.

GAME PLATFORM AND PSEUDO FICTIONAL CONLANG PROBLEMS

This taxonomy exposes weaknesses on the exclusion of game platforms to which the games are played. Game platforms classified into consoles, handhelds, PCs, and mobiles generate different treatments on the games. PCs and consoles with higher digital performance compared to handhelds and mobiles depict different level of graphics, contents, and other in-game related elements. This condition implies that the level of immersion the players experience is also of difference. PCs and consoles, due to their high digital performance,

expose possibilities for the game designers to push their game design to its maximum level and in regard to fictional conlang, its implementation is assumed to be more open than that of handhelds and mobiles.

This research discusses the aforementioned different features generated from different video game machines but excluding them in the taxonomy due to the emergence, in video game perspectives, of ludonarrative dissonance, a term coined by Hocking (2007) to describe a condition in which the game narrative and gameplay clash in a conflict. In the view of the taxonomy based taxonomy of fictional conlangs, ludonarrative dissonance occurs when a game is ported from gaming machines with high interactivity to low interactivity or vice versa and when a game is remade for different gaming machines from consoles/PC to handhelds or vice versa. As fore discussed in the case of Panzerese from *Panzer Dragoon*, the Panzerese language was assumed to have existed in *Panzer Dragoon Mini*, the handheld version of *Panzer Dragoon* series, as the game world shares the same one with that of the console series. The problem is that due to the limited feature a handheld has, the Panzerese is not physically presented. The physical absence of the Panzerese indicates that the ludic function of the gameplay is of mechanics only. This condition further indicates that games with ludic functions solely on the mechanics are unable to be categorized into either approach since the fictional conlangs exist on the game world without being exposed to the players. Thereby, the taxonomy excludes game with mechanics ludic functions due to the pseudo presence of the fictional conlangs.

In the perspectives of game ergodicity, the nature of video games to be assessed in a non-trivial manner (Aarseth, 1997; Eskelinen, 2012; Simanowski, Schäfer & Gendolla, 2015), fictional conlangs might act as game mechanics influential to the gameplay and game experience the players have. In relation to the exclusion of games solely focusing on the mechanics, such as found from the case of *Panzer Dragoon Mini*, the physical absence of Panzerese reflects an ergodicity to which the players should access though the fictional conlangs exist in a pseudo fashion. The ergodic nature of such pseudo fictional conlangs like the Panzerese indicates that fictional conlangs might serve as ancient or death languages in a real life, spoken in the past but extinct in the present, hieroglyph for instance. One of the examples of fictional conlangs with such condition, besides the Panzerese, is plentiful to be found in Tolkien-like open world role playing games.

The presence of pseudo fictional conlangs resulting from mechanical ludic functions as discussed before is the weakness of this taxonomy based taxonomy. This fictional conlang type transcends the three proposed approaches. It is interpretive in a sense that the players are required to interpret the language and its relation with the narrative and mechanics of the game. It is explorative in a sense that exploration to require an in-depth detail of the fictional conlangs is required and even the exploration involves external game paraphernalia as guide books or interviews with the creator to learn more about the fictional conlang. It is configurative in a sense that there are plentiful fan bases attempting to decipher and to physically construct the fictional conlangs. The existence of these pseudo fictional conlangs, due to its ambivalent and indefinite natures, requires a more thorough study to analyze them and to classify them into their own taxonomy. Kinaesthetic approach focusing on the mechanics of video games as suggested by Newman (2002) or performativity (Bogost, 2008) might be assistive in constructing an in-depth analysis of pseudo fictional conlangs in video games due to its characteristics of gaming experience based. Applying these approaches, pseudo fictional conlangs might come to an analysis revolving around the stance of pseudo fictional conlangs and their influences on other ludic elements of the games.

THE PROBLEM OF RPG SUBGENRES

The domination of RPGs in the taxonomy signifies that fictional conlangs are identical to narrative-driven genres. To complete the taxonomy, it is suggested for other researchers interested in fictional conlangs in video games to classify in detail the genres the design approaches are applying to. This research disjoins RPG sub-genre classification due to the ambiguity of being ‘sub-genre.’ That sub-genres are the result of convention changes (Wolf & Perron, 2014), transformations, adaptations, and reinventions of genre (Arsenault, 2009), is something arguable due to their different stances in defining genres and their so-called subgenres. Their stances are revolving around ludological or narratological perspectives (Clearwater, 2011). In ludological perspectives, to be labeled as subgenres, the convention changes as proposed by Wolf and Perron (2014) refer to changes on the mechanics of the gameplay. Meanwhile the changes are on narrative aspects when viewed from narratological perspectives. These polarized perspectives trigger a problem on the status of changes for a genre to be called a subgenre. That a genre should undergo a change, a transformation, an adaptation, or reinvention on mechanics, narrative, or both to be downgraded as subgenre is the eminent problem.

The aforementioned eminent problems rooting from the classification of genre being a subgenre evokes another problem if viewed from hierarchical perspectives. That a subgenre is the ‘sub’ of a genre or a genre on its own is the problem. One of the examples for this case is sandbox or open world games. This genre, derived from the idea of box full of sand where children play in freedom without any barriers or boundaries (Saad, 2009), offers a total freedom for the players to engage the game through any means the players deem suitable. Its narrative nature with a high level of freedom to decide which narratives the players will take and its mechanical nature allowing the players to explore the game world without any boundaries or conditions emphasize the ‘role-playingness’ of the game. This role-playingness signifies and strengthens the status of sandbox as an RPG (Role Playing Game). Due the status of RPG as an umbrella for any games with role-playingness, sandbox is assumed to be the subgenre of RPG from which the term Sandbox/Open World RPG emerges. The problem with this classification lies on the status of role-playingness when this ‘subgenre’, in this case, is in a mixture with another subgenre. When the role-playingness has Japanese elements of an RPG, an RPG is called JRPG (Japanese Role Playing Game). When the role-playingness is an open world, an RPG is called Sanbox RPG. When Japanese elements are in a mixture with sandbox, what ‘subgenre’ should one call? A Sandbox JRPG? This pivotal problem is the background why the subgenres are excluded from the taxonomy. Subgenres, though exposing some problematic conditions, are of necessity to be present in video game fictional conlangs due to the need for detailed genres to which the fictional conlangs are applied to. *Ar Tonelico*, for instance, is dubbed ‘Girl Synthesis RPG’ by its developers, Gust Co. Ltd. and Banpresto, since narratively the game revolves around songstress girls called Reyvateils and mechanically the players could adorn the Reyvateils with fan service costumes. This ludo-narrative consideration in naming a genre, in relation to Hymnos, the fictional conlangs of the game, indicates how the developers prefer excluding themselves from conventional subgenre naming as a solution in maintaining the ludo-narrative aesthetics of the games. The decision to design Hymnos’ scripts to mimic sound symbols strengthens the ludo-narrative aesthetics, projected through ‘Girl Synthesis RPG’, since Hymnos is narratively related to Reyvateils and it has a synthesis feature in its game mechanics called Song Synthesis, allowing the players to receive certain power ups by synthesizing Hymnos.

CONCLUSION

A priori and *a posteriori* taxonomy for video games fails on (1) elaborating the term ‘existing languages’, (2) indicating the roles of textual medium on the linguistics system of the conlangs, (3) relating the linguistics aspects of conlangs with the narrative and mechanical aspects of video games, (4) explaining the relationship between conlangs and immersion level of the players, and (5) displaying different degrees of interactivity of the conlangs. This failure is due to the mimetic nature of the taxonomy which only compares the conlangs with the languages in real world. If this mimetic nature is combined with a methetic one where identification on the playful nature of an object is taken into consideration, the taxonomy does not only indicate similarities and differences between the conlangs with real world languages but also signify the roles of conlangs as a linguistics system in their relationship with game elements.

Video games are constructed by ludic and textual macrostructures (Ensslin, 2011) and thereby the linguistics systems in video games are constructed to immerse the players in a playful ludic activity. Thus, a taxonomy of conlangs that disregards these macrostructure and gaming nature is in question when applied to analyze or design conlangs distinctively attributed to video games. In response to the necessity to incorporate these game characteristics, fictional conlangs designed for video games require a taxonomy based textonomy, a study of textual medium, and ludic linguistics, a study of language use in games, since video games have complex mechanical and narrative elements merged to generate gaming immersion. Degree of interactivity, ideology of influence, ludic function, and language role are the elements contributing to emergence of interpretive, explorative, and configurative approaches from which low, mid, and high levels of immersion occur. This textonomy based taxonomy exposes a weakness on its incapability to classify pseudo fictional conlangs, in-game language taking no physical form functioning as narrative driver.

Taking this methetic conlang taxonomy designed solely for video games in tandem with mimetic *a priori* and *a posteriori*, research on conlangs could identify (1) the mimetic and methetic relationship between the linguistics systems of conlangs and game elements, (2) hegemonic influences between conlangs, game genres, and immersion levels, (3) the link between language and game studies embodied through ludic linguistics and textonomy. This taxonomy also benefits conlangers for video games in terms of its rigid presentation on the roles of conlangs as mechanical and narrative aspects of the games. Using the approach of a conlang design by fusing *a priori* and *a posteriori* with this proposed taxonomy, conlangers might reveal the level of immersion expected from the players and its suitability with game genres.

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