Creating Felicitous Gaming Experiences: Semiotics and Pragmatics as Tools for Video Game Localisation

Miguel Á. Bernal-Merino
1. Introduction

The value of the interactive game industry is expected to reach a $100 billion by the end of 2017 (Newzoo, 2014), but it has the potential for much more if game localisation processes are more conducive to ideal game semiotics and pragmatics across localised versions. The growing value of games as entertainment products is not only due to the fact that players of all ages are attracted by the many genres (casual, platformer, fighting, puzzle, singing, racing, shooter, dancing…) and platforms (PS4, PS3, PS Vita, Xbox One, Xbox 360, Nintendo Wii and 3DS, PCs and smartphones), but because there is a growing number of countries with a maturing gaming community thanks to the game localisation industry (ISFE 2012). However, the translation and localisation of video games remain poorly understood by professionals partly because of its relative youth, and perhaps a certain degree of stigmatisation in society and academic research. To add to the difficulty, the constant development of digital tools has pushed industry processes towards literal translation because it is easy for computers to swap words between languages, and it also makes the task easy for accounting purposes. Business priorities and technical pressures have also further entangled translation practice by establishing workflows that are “string-base” (words or phrases), disjointing the integrity of the creative text which often loses stylistic cohesion and content.
Whereas such approaches can be acceptable when the option is no translation at all, neither literal nor string-based translation are appropriate for multimedia interactive entertainment software products. In a way, Cicero’s comments on translating as an orator and not counting the words as a translator is as valid today as it was in 46 BCE (De Optimo Genere Oratorum, in Venuti 2012); word-for-word translation is likely to lose the force of the original due to the lack of purposeful cohesion of the interactive text as a whole.

Text translation becomes even more complex when image, sound and interactivity are present in the creation, such as in the case of video games. Written language can often comprise enough information for the text to function, but only because it relies on readers’ shared knowledge with writers, and not because everything can be contained in the written form alone. In other words, human communication is a polysemiotic act that benefits from acoustic and visual information as well as the pragmatics of language. The translation and localisation of multimedia interactive entertainment software evidences how the communicative process between game-machines and players does not rely on isolated linguistic input alone, and how current professional practice can be greatly improved by acknowledging games as the polysemiotic creation that they are.

Although the discipline of semiotics originated in linguistics (Saussure 1916) and in philosophy (Peirce 1931), it is a useful instrument to study game-machine/player communication. Semiotics can help identifying each individual sign and its synergy with other signs on the existing layers that intertwine to create semiosis. The concepts of intersemiotic translation (Jakobson 1959) and polysemiotic cohesion can also help to explain the complex relationships amongst signs in modern video games. Although semiotic analysis tends to focus on images or words, the brain spends most of its energy identifying patterns of signs from a wide variety of sources (Faust 2011; Pulvermüller 2005). Images and words are only some of the informers that the brain can utilise to generate felicitous semiosis. The human meaning-making toolkit is nonetheless much grandiose and video games offer an excellent case study to explore polysemioticity in action because their multimedia artificiality helps us identify the signs that have been assembled in order to elicit players’ enjoyment. Being an interactive entertainment product, the discipline of pragmatics is also required because the communication between game-machines and players is interdependent in nature, it can only be achieved when signs are cohesively layered enabling the appropriate response by each interpreter, the game-machine and the player, following the cooperative principle and conversational maxims (Grice 1975).

Broadly speaking, text-only creations such as novels and poems, could be said to be “monosemiotic”, because the stimuli that initiates the meaning-making processes in the brain is of one type only, i.e. written language; everything conjured up in readers’ minds follows the text on the paper. I would argue that language could also be understood as polysemiotic in essence, since it can
trigger the non-linguistic areas in the brain (Faust 2011), but this is a topic for another article. Most entertainment media, such as picture books (González Vera 2011), newspapers, comics (Zanettin 2008), magazines, films (Chaume 2012), pop videos (Hewitt 2000; Kaindl 2005), opera (Gorlée 2005) and video games (Bernal-Merino 2015) combine several levels of semioticity, even traditional stage plays (Di Benedetto 2010) and theme park attractions do (Ackley & Purvis 2013; Yang 2015). The analysis of visual, acoustic, and tactile signs combined with game interactivity shows how messages can ravelled very quickly to construct an immersive experience that can quickly break if it is not cohesive within and across all the layers of semiosis utilised. The following sections explore and illustrate these concepts in detail.

2. Polysemiotic interactive art

Video games are a maturing form of entertainment media that draws inspiration from many previous art forms (literature, painting, music, sculpture…), creating new expressive possibilities for artists and experiences for the public thanks to multimedia interactivity. Semiotics is a powerful tool to interrogate these new ludo-artistic products paying attention at how they create meaning partially based on the choices made by players (Lindley 2005). The layering of meaningful, real-world signs in video games makes playing more intuitive and immersive with the benefit of potentially eliminating all dangerous and unwanted features that are not aligned with the ludic experience being put forward (Myers 2014), i.e., players crashing in a flight simulator has no fatal consequences. The advantage of interactive media is that options can be pre-programmed to adapt the experience fully, so that players can communicate with the game-machine in the way intended by the game creators. This need is even more essential when thinking about players with some type of disability. For example, there are games such as Battlefield 4, Borderlands 2, World of Warcraft that support various types of colour-blindness, without which daltonic players would fail to interpret what the game is asking them to do through colours in each instance. Blind gamers, on the other hand, benefit from all dialogues being voiced, while deaf gamers need all dialogues to be written out. Each type of sign can gain preponderance for players depending on their preference and/or disability (Cole et al. 2014; Barlet & Spohn 2012). The positive aspect is that cohesive polysemiticity benefits all players because it makes for an experience where all signs complement each other in the intended way. For example, in a racing game, icons on the route map, the intensity of roaring engines and the vibration of the controller can be instinctively utilised by players to adjust their driving when cars approach from behind, whether players have a disability or not.

Video games are entertainment-dedicated programmatic machines, similar to the mechanic (foosball) and the electric ones (pinball) that can still be found
Transpositions Between Verbal and Non-verbal Semiotics

in amusement arcades, but they are technologically based on modern digital computing. The upgrade of entertainment automatons to digital technology has opened a considerable amount of options for creators which raises fundamental questions about machine-human interaction, moving from the mere functional to the most complex yet joyfully immersive experience. Video games have innovated by merging interactivity with techniques developed by visual and soundscape artists (Hart 2014). The result is an enriched meaning-making process between players and game-machines. The simple physicality of entertainment automatons has been replaced by the highly artistic and intricate interfaces of modern games. This is why from 2004, the British Academy for Film and Television Awards (BAFTA) has been bestowing its accolades upon the most highly accomplished video games in areas such as story, art, audio, and music, categories found also in international film awards. It was to be expected, since video games are maturing as an artistic medium and creators look for inspiration in all types of artistic expression, for example:

a. Novels: *The Lord of the Rings* (series)  
b. Epic poems: *Dante’s Inferno* (2010)  
e. Architecture: *Assassin’s Creed* (series)  
f. Comics: *Batman* (series)  
g. Cartoons: *The Simpsons* (series)  
i. Singing: *Singstar* (series)  
j. Dancing: *Dance Central* (series)

Testament to the social impact of video games is the large amount of paratexts they can generate, matching that of other creative products. During the 1980s and 1990s, novels, films and comics were often at the centre of transmedia creations, so games such as *Alien* (1982), *E.T. The Extra-Terrestrial* (1982) and *Indiana Jones in the Lost Kingdom* (1984) appeared in the market, as well as *Spider-Man* (1984) and *Asterix and the Magic Cauldron* (1986). Nowadays, entertainment software can also generate transmedia creations that expand into other industries, such as *Tomb Raider* (1996-present), *Metal Gear Solid* (1998-present), *Halo* (2001-present), all of which have successful comics, films, cartoons, figures, board and card games. Although players may not have all of these accompanying products, such copious paratext contributes to their experience and to their pride of being fans of a famous creation. Displaying game ownership and high score symbols changes players’ perception, as well as social appreciation by peers. This can in turn change the meaning of the playing activity from casual to serious. In fact, video-gaming is now a global spectator sport on track to surpass the film industry within five years (Brown 2015).

In some cases, the level of artistry in video games is comparable to feature films also in terms of the money and the variety of skilled professionals employed. Video games nowadays can take up to five years and six hundred specialists to complete (Weber 2013; Schmitz 2014). The fact that game producers would invest
Creating Felicitous Gaming Experiences 235

such large amounts of money on so many game specialists is indicative of the value that each of them brings to the final product. Game designers cannot point a camera and film actors, because nothing exists in the binary world of computing, everything in a game has to be programmed from scratch. These specialists cover a wide variety of disciplines from physics coding to storytelling, level design, 3D modelling, interactive music, animation, etc. The interaction with the game-machine that gives players the sense of agency is achieved through multisensory input/output which entails layers of meaning-making signs, chiefly visual, acoustic and tactile. For instance, players’ experience of the real-world teaches them that picking up a book to read the content of its pages will entail (among other things) a book, hands, noises, pages, a written language and content. When recreating this simple event within a game, the computer itself does not know about books, hands, noises, pages or written text, let alone how they behave. Making in-game interactions “feel” natural is the task of the large amount of professionals that staff game development teams (Price et al. 2009). For example, said simple interaction can be brought to reality in-game by using pointing to the book with the controller, pressing the left and right triggers to symbolise grabbing, and sliding the finger on the front touchpad to indicate page turning. Such interaction combined with the sound and animation of page turning creates an experience that can be considered more intuitive than simply pressing a button for the content of a book to be displayed. In a sense, video games can be described as true dream factories, because new realities can not only be imagined (like in books) or seen (like in films), they can be experienced by utilising the input/output commands programmed into the virtual environment. Game-world immersion is, of course, not as holistic as the real-world, but the layering of meaning-making signs utilised in modern video games can offer compelling ludo-artistic experiences that are genuinely engaging, from casual Pac-Man (1979) to epic Halo (2001-16), outrageous Bayonetta 2, and touching Beyond: Two souls (2013). As well as bringing players into the game-world, new game technologies, such as toy-to-life and augmented reality, are being used to break the fourth wall of traditional entertainment media, bringing the game into the real world. In the Skylanders game series, physical toys with “near field communication technology” (NFC) are combined with the virtual game-world, so when children place a particular toy on the purposely-built Skylander “Portal of Power”, its virtual avatar appears and becomes playable in the video game-world. The physical toy extends the imagination and play possibilities into the real world. Augmented reality games (for Sony’s PS Vita, Nintendo 3DS, smartphones) blend real images of the world around the player with digital ones in such a way that they co-exist in the video game-world. Suspension of disbelief is maintained for players despite this merging of worlds, because there is notional (or neural) continuity, i.e., there is no dissonance in the game logic that binds reality and virtuality together if the signs are cohesively layered within and amongst themselves. When it fails, the fourth wall is not only obvious but a reason for players to disengage (Bacon 2013).
Although human communication appears to be mostly conscious, visual and linguistic (Ghazanfar and Lemus 2010), and this is reflected on how we “read” images or “picture” people’s appearance based on their voices, we obtain information from a much wider array of sources. The brain favours complex polysemiotic perceptions and thoughts, *verbi gratia*, the semiosis of coffee is not only “a popular stimulant drink made by infusion from the roasted and ground seeds of a shrub”, it is also its look, taste, scent, temperature, and the feel of the vessel out of which people drink it. The more senses and notions are involved, the deeper the engagement with the product and the activity around it. The implications for game designers and localisers are many because players are quick to notice polysemiotic dissonance. For instance, when game journalists complain that weapons in a game “don’t feel right”, they are referring to how the combination of signs encoded in the game (sound, animation, controller vibration, victim response, environment change, etc.) does not unify cohesively to maintain the notion of using that weapon as described by the game. It could be the equivalent of drinking our favourite coffee after it has been coloured pink and poured into a frozen beer mug. The research of Ghazanfar and Lemus (*Ibid.*) and Kayser *et al.* (2010) indicates that audiovisual responses are more informative than responses where, for example, the auditory sense alone was present, even if the sound was enhanced in quantity or quality. At the same time and due to the major bottlenecks of information processing (Marois and Ivanoff 2005), the brain favours sensory diversity. Only a fraction of such information is processed consciously, but the lack of cohesive polysemiotic inputs detract from full immersion in the experience. Neurology confirms what we know intuitively thanks to our polysemiotic brain that a scary opponent carries more “monster” meaning when it is visually mighty, its loud snarling can be heard over all other sound and the game controller vibrates with each of its earthshattering steps as displayed onscreen.

Interactivity is not new in the arts but, for example, although Cortazar’s *Rayuela* (1963) (published in English as *Hopscotch*, 1966) adds innovative elements to the book-reading experience by inviting readers to alter the order in which they read each section, this does not change the story. Similarly, activating the director’s commentary on a Blu-ray informs the viewing experience but it does not change the film. In contrast, all games have at least two possible endings, winning and losing, and many games have possibilities that remain undiscovered until players decide to play again and make different decisions. Video games are clearly different from all previous entertainment media because, although pre-programmed and ultimately finite, each instance of playing will always be slightly different thanks to the randomness integrated into in-game events and the unique reactions of players to them. For instance, experienced players may whizz through a game level because they know that by sparing the first opponent they can learn about a secret passage and avoid unnecessary dangers before the final boss fight, while a newbie may finish the level weakened and unprepared for the boss fight not having
experienced such option. Although both players completed the level, the semiosis generated is different.

As entertainment products integrate more elements thanks to technological improvements, the layers of meaning aggregate in ever more intricate ways, opening the possibility to multi-sensory engaging creations amplified by the pragmatics of machine-human interaction. For example, moving away from the enemy in the first *Alien* (1982) game is much less exhilarating than doing the same in *Alien: Isolation* (2014). It is not only that modern graphics and special effects are more realistic, it is that the polysemiotic cohesion inspired by Scott’s film of 1979 has been better crafted to achieve player immersion and believable agency. Each layer of signs corroborates the others to elicit a real sense of desperate survival in players. Such complementary effect of each semiotic layer engages players, who “feel” that every decision is crucial if they want to avoid being caught by the deadly creature. The 2014 game is communicating more and players are forced to process more information and act on it to save their lives. It is a constant feedback cycle between the game-machine and the player that generates new meaning with each playthrough. This ongoing semiosis also redefines in-game interaction. Thus in *Alien: Isolation* (2014) the top button on the game controller allows players to point a pocket flashlight to dark locations while this option did not exist in the 1982 game. Not only that, but interaction tends to be specific to each game, which means that the specific pragmatics of playing changes each time. Games such as *Splatoon* (2015)—a light-hearted paintball shooting game—use the top button of the controller for jumping and there are no flashlights or dark locations in its game-world. New codes and new meaning have to be learnt by players with each game because if they do not perform the right actions in response to the game-world they cannot be successful. In other words, the signs created for the game require constant choices that players can only make with the proficient use of game interfacing controls. These feedback loops prove meaning acquisition through controller interaction, as a result, players complete the each game level successfully. The semiosis unique to the game has been confirmed by the game-specific pragmatics.

3. A polysemiotic conversation

Like other artists, game designers draw inspiration from both classic and modern artefacts, such as epics, novels, fairy tales, toys, comics, board games, films, sports, quiz shows, playing cards, cartoons, TV series, and talent shows. Regardless of the source material, all video game creations are reimagined around the requirements of game interactivity, i.e., appropriate game pragmatics (Hidetaka 2015). A cynical assessment could conclude that video games are like films where players are made to “work” when signalled in order to continue accessing the audiovisual content, but this would ignore player agency and the sophisticated weaving of signs within and amongst layers (Iwinski 2012). Game-machines need to constantly interpret
and adjust to players’ input. The pragmatic level is, like in human conversations, also a meaning-making one. Not only do games break the proverbial fourth wall but their pragmatics place players on stage by proxy through their in-game avatars. The third-person experience of book reading or film watching becomes a first-person undertaking. In non-interactive media, the information flows in only one direction, towards the reader/viewer. Nothing that s/he can do affects the creation they experience. People do manipulate the object but have no chance of altering the story itself. Passive media, therefore, can utilise up to five layers of semiosis and fifteen types of signs (Table 1 below). It could be represented in the following way:

\[
\text{NOVEL/FILM} \rightarrow \text{MESSAGE} \rightarrow \text{LAYER (5)} \rightarrow \text{SIGN (15)} \rightarrow \text{READER/VIEWER}
\]

In interactive entertainment media, the player has to constantly decide on information to experience more of the creation so it is a constant exchange of signs (Table 1 below) between the game-machine and the player. The process of game-machine/player communication could be illustrated with the following bidirectional diagram:

\[
\text{GAME-MACHINE} \leftrightarrow \text{MESSAGE} \leftrightarrow \text{LAYER (8)} \leftrightarrow \text{SIGN (24)} \leftrightarrow \text{PLAYER}
\]

Game professionals create a ludic version of reality focusing on and augmenting different feedback mechanisms in order to elicit the desired experience in players. For instance, an action game such as \textit{Metal Gear Solid V: The Phantom Pain} (2015) places most of its attention on the creation of stealth and gun battle scenarios for players to experience military heroism. By contrast, \textit{Yoshi’s Woolly World} (2015) focuses on a colourful environment made out of fabrics and on using yarn in imaginative ways to overpower knitted enemies, uncover hidden passages, and create soft platforms to progress on to new levels. Finally, a survival horror game such as \textit{The Evil Within} (2014) emphasises the feeling of helplessness in players who experience constant narrow escapes from a certain gruesome death. While the first game gives players the adventure of a toughened soldier, the second offers the charming exploration of a bouncy yarn-world, and the third presents a bloody environment for players to feel frightened in. Everything is possible, it only depends on how well designers weave the multiple sign types to create engrossing interactive experiences (Cage 2010).

Players can utilise a wide array of peripherals to “converse” with the game-machine, such as touch-screens, gamepads, joysticks, microphones, cameras, driving wheels, guns, dancing mats, balance boards, guitars, etc. This means that the player/game-machine communication possibilities have increased exponentially—compared to mechanic and electric ones - which also results in an enlarged chance for the conversation to break down. A lack of semiotic and pragmatic cohesion is often noted by game journalists and players when they complain that some features, weapons or characters “don’t feel right”. Hence,
the pragmatic analysis of games is essential to assess the exchange of linguistic, graphic, acoustic, gestural and tactile signs. In this sense, the player/game-machine communication is interdependent because both interpreters vary their reaction depending on the other’s input. The game-machine has to be considered as an interpreter despite not being a sentient being, since it is a proxy-interpreter for the humans (designers, programmers…) that created the rules it abides by. If none of the pre-programmed inputs—or signs—are given by players following Gricean cooperative principle and conversational maxims (Grice 1975), communication breaks down and playing stops. Felicitous game semiosis and game pragmatics can only occur when players master the signs and rules of each particular game, and choose the right combination of signs to converse with each game-machine (Williams 2013). Such conversation can utilise up to six senses: sight, hearing, touch, mechanoception, proprioception, and equilibrioception. The integration of peripherals designed for each of these senses enriches the virtual playing experience for players since they can derive meaning from each type of input, for example:

1. Loudspeakers in game controllers allow players to hear rustling coming from their hands when their in-game avatar moves through high vegetation (Middle-Earth: Shadow of Mordor, 2014);
2. Steering wheels generate different types of vibrations when driving off the road (DriveClub, 2014);
3. Compressed-air gaming vests give players sudden hits when they are shot at (BioShock, 2013);
4. Virtual reality headsets (Oculus) transfer players’ proprioception in-game by adapting visual feedback to their head movements (Adr1ft, 2016);
5. Cabin flight simulators (Sega R360) stimulates players’ equilibrioception by being able to rotate fully like an airplane (Wing War, 1994);
6. Voice-analysis software listens and labels players’ performance as “Perfect”, “Okay”, “Awful” telling them how they are singing into the microphone as compared to the original recording (SingStar series);
7. Touching the rear touch-pad in the PS VITA handheld console creates the illusion of players sticking their fingers inside the game and eliminating enemies (Tearaway, 2013);
8. Accelerometers in the PS MOVE controller convert its shaking and pointing into a magical sound and a ray of electricity shooting off from the tip of the in-game magical wand (Harry Potter and the Deathly Hallows, 2010).

The cohesiveness amongst layers of signs and the pragmatic implications of interactivity create an aesthetic reality that is breaking new semiotic ground from the viewpoint of human/machine interaction for entertainment purposes. These multi-layered communicative events can help to immerse users in the virtual world like no other media has done before. In fact, some of the abovementioned
technologies are so comparable to reality that they are already being integrated into professional contexts, such as the training of soldiers. In this case, the Omnideck 6 (Omnifinity 2015), an omnidirectional treadmill, is combined with a virtual reality headset (with screens, accelerometers, speakers and microphone), a compressed-air gaming vest and a rifle-controller. The full body immersion into the simulation is the highest possible to date and, although it is not equal to reality in depth, it offers meaningful experiences that are comparable to real ones on the desired parameters (Verchere 2013). When players’ brains improve their decisions based on what all these peripherals are telling them, trainers say that, neurologically speaking, they have truly learnt. In other words, they have assimilated the meaning of images, sounds, vibrations, resistance to walking, body hits, and disorientation after explosions experienced in the simulation. The sensations may not be exactly the same as the real-world ones, but, since meaning is created in the brain, the successful playing ratifies the validity of the signs exchanged with the battle simulator game-machine.

One of the most popular roleplaying games (RPGs) of 2014, Dragon Age: Inquisition, presents a clear example of how the synergies between layers of semiosis are necessary to give players the information they need to converse with the game. Players have to talk to non-playing characters (NPCs) and develop different types of relationships with them. It is achieved by asking players to choose from a list of phrases in each conversational instance. Bioware, the developer behind this game, changed from a numbered list of options to a “dialogue wheel”, effectively six possible utterances arranged horizontally around a circle. Different images appear inside the wheel to tell players the tone of the highlighted statement. There are nineteen possible images such as a green “✓” for agreeing, a red “X” for rejecting, a bifurcating arrow for general comments, a crying eye for sadness, a red fist for anger, a heart for romance, etc. The graphical sentence-descriptor addition was most welcome by players because, in previous games, it was difficult to infer from the words alone how the conversation was likely to progress. Thus, game technology connects the sensing and signalling capabilities of each interpreter (game-machine and player) in a complex polysemiotic matrix. The table below gives a full list of the types of signs pre-programmed on the game-machine for players to interpret and react to.

Table 1: Multiple layers of semiosis and types of signs in game-machine/player communication
<table>
<thead>
<tr>
<th>LAYERS OF SEMIOSIS</th>
<th>ICONIC SIGN</th>
<th>INDEXICAL SIGN</th>
<th>SYMBOLIC SIGN</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRITTEN LANGUAGE</td>
<td>1- “Stats” in menu screen to visualise the statistics of the players in the football team</td>
<td>2- “Items” in menu screen to access all the objects collected during play</td>
<td>3- “JuiceBox” to adjust the many features that affect the performance of the game</td>
</tr>
<tr>
<td>SPOKEN LANGUAGE</td>
<td>4- Voiceover prompt “Get ready to fight!” before a combat</td>
<td>5- “I see that there’s fire in you” before casting a fireball spell</td>
<td>6- “The winds are changing for you” after repeatedly hitting players’ avatar</td>
</tr>
<tr>
<td>IMAGE</td>
<td>7- Sword image to represent the sword the character owns</td>
<td>8- An opening/closing hand to indicate that there are in-game objects to interact with</td>
<td>9- A “▼” to symbolise a character has something new to say</td>
</tr>
<tr>
<td>MUSIC</td>
<td>10- Instruments imitating police sirens as part of the musical composition</td>
<td>11- A drunken folk tune to indicate entering a tavern</td>
<td>12- Sombre tune in crescendo to symbolise a dangerous enemy approaching</td>
</tr>
<tr>
<td>SOUND</td>
<td>13- Sound of steps on water as avatar crosses a puddle</td>
<td>14- Metallic hammering when entering a forge</td>
<td>15- Insistent beeps to symbolise that aliens are in the vicinity</td>
</tr>
<tr>
<td>TOUCH</td>
<td>16- Steering wheel vibration emulating driving through rough terrain</td>
<td>17- Sudden, localised pressure from compressed-air vest to indicate being hit by enemies</td>
<td>18- Jerking vibration of gaming chair to symbolise the death of players’ avatar</td>
</tr>
<tr>
<td>PROPRIOCEPTION</td>
<td>19- With a virtual reality headset, game-world adjusts to head movements</td>
<td>20- With the PS Move, swinging down the controller cuts in-game table in two</td>
<td>21- With MS Kinect, a rapid hand-pointing motion shoots lightning bolts from the avatar’s wand</td>
</tr>
<tr>
<td>EQUILIBRIOCEPTION</td>
<td>22- With a virtual reality headset, blurred, disconcerting vision and ringing sounds after nearby explosion</td>
<td>23- With Omniceck 6, walking is disorienting when players’ avatar receive heavy damage</td>
<td>24- With the Sega R360, airplane cabin spins dizzyingly when players are fatally impacted by enemy missile</td>
</tr>
</tbody>
</table>
Each of these types of signs has variations within their categories in essence and intensity (font size, colour, volume, vibration strength, etc.) as well as variations based on synergies, for instance, a close explosion at the back of players’ avatar may project long shadows and angry utterances as well as the sound of detonation, the vibration of the controller, and sudden pressure from the back piece of the gaming-vest. As mentioned earlier, the gaming experience does not have to be true to reality, but to the logic of the game-world. Players are willing to suspend disbelief within the confines of the conventions of the genre; it is a ludic-communicative simulacrum. Games create their own reality which makes sense within the referential system of each particular game and genre. For instance, Nintendo’s Mario, one of the most popular characters in the industry, jumps on top of his mushroom enemies to get rid of them. Bouncing on top of enemies is a game-mechanic common to the genre of platformers, but it will guarantee to kill players in most other game-genres if it is at all possible, because normally any type of enemy contact causes damage to players’ avatars. Similarly, players of racing games do not expect to step out of the vehicle and go fishing just because they drive through a river, but they would be disappointed if driving on asphalt felt the same as on rough terrain, despite being fully aware that these are only simulations. The feeling of appropriateness is elicited by the cohesion amongst layers of signs: image vibration, sound, loss of traction, decelerating graphics, dirt clouds, spectators’ reactions, etc. The more closely-knitted the layers of signs are, the higher the likelihood that all players will arrive at the same felicitous semiosis intended by game creators.

Nevertheless, it is not easy to build such cohesive and successful digital playing experiences. As mentioned above, every feature in the game-world has to be created as well as its desired interaction. Entertainment software is chiefly a visual medium and, although there are iconic, indexical and symbolic signs, most of them have a referential ludic value and not an ontological one as the ones from player’s real-world experiences. In other words, however photo-realistic a window may look like in a game, the possibility of opening and jumping through it is rarely available unless game designers create such interaction. Video games are complex systems of rules and signs that have to work in unison, not imitating reality, but offering a multimedia experience that feels cohesive with the pragmatic ambitions of the game. When there is polysemiotic or pragmatic dissonance, players and critics alike condemn the game, for example: unexpected “invisible” walls in Watch Dogs (2014) or a telescope that can only be pointed at “one” window Crimes & Punishments: Sherlock Holmes (2014). Felicitous semiosis breaks because the game itself does not adhere to its own rules and signs consistently; if there is no wall, players should be able to go through this space, and if there is a telescope, players should be able to point it to all the windows visible on the block in front. The immersion that cohesive game interaction creates depends on the observance of the semiosis established and its cohesiveness with the pragmatics implemented for
player interaction. Of course, this is the main attraction of interactive entertainment media, its pragmatic dimension, because it means that fans can replay games and make different decisions which change their experience and often the ending of the game story. *The Witcher 3* (2015), *Beyond: Two Souls* (2013) and *Until Dawn* (2015) are three video games with more than twenty different endings each. It is through their decisions that players bond with their avatars and share in their failures and successes. Indeed, the bond is so strong that video game players always use the first person singular when talking about the experience their in-game avatars live through, and since deciding one thing or another affects the outcome, the interaction acquires a meaning that is emotionally charged and weighs on players’ minds, because they want to succeed with their avatar (O’Neill 2008). Thus, there is an augmenting semiotic effect brought by interactivity itself. It is not only that the images, sounds and movements are propitiated by players’ decisions (Tate 2011), but that their emotional involvement expands the meaning of playing; players’ and avatars’ stories become entangled. There is no significant difference with other experiences for the brain, since real and virtual signs are processed in the same manner in the absolute darkness of neural networks (Eagleman 2015).

It is also essential to consider how the interaction functions from the player to the game-machine. Although game-machines interpret all signs as symbolic, human players can also think of them as iconic or indexical, because they mirror their normal interaction in real-world situations. Game developers seek to achieve highly intuitive interfaces so that players see them as logical and meaningful (O’Neill, 2008). Hence, the simple button pressing of old human-machine interaction is reimagined by designers who create new game peripherals that allow for game pragmatics to become stylised. Here are examples of the seven most common types:

1. Button command: Players press right trigger on the game controller to shoot (*Destiny* series)
2. Written command: Players write down words to create in-game items (*Scribblenauts*, series)
3. Spoken command: Players speak up commands to lead their team (*Call of Duty* series)
4. Body command: Players do particular moves to follow prompts in synch with music (*Dance Central* series)
5. Sung command: Players sing in tune and in synch with music (*SingStar* series)
6. Haptic command: Players tap on PS Vita rear-touchpad to push steps forward from behind the wall (*Little Big Planet*, 2012)
7. Tilt command: Players fully tilt their guitar-controller to activate their ‘Hero Power’ (*Guitar Hero Live*, 2015)
The signs exchanged between game-machines and players follow the conversational cooperative principles (Grice, 1975). Just like conversing people must speak accommodingly and mutually respect one another to communicate within a given context, this human/machine interaction assumes both interpreters will cooperate to achieve the ludic end of the exchange, i.e., to complete the game successfully. Although the interactivity flows within the clear constraints of what has been programmed for each particular game, the principles of conversation still apply; the game-machine acting as a proxy for designers presents information in one or several of the above-mentioned eight layers of semiosis and players choose their preferred line of action. Grice’s conversational maxims (ibid.) can be employed to assess the cohesion of the signs woven into the game-machine/player interaction by its creators. For example:

- Maxim of quantity: The game is as informative as possible but no more than needed to find the balance that reinforces the game experience.
- Maxim of quality: The game tries to be truthful and does not give information to players that is inappropriate or contrary to the proposed game experience.
- Maxim of relation: In every interaction, the game offers information relevant to the purpose of the exchange.
- Maxim of manner: Even though using artistic devices (literature, music, graphics, dance…) the game shows a way through avoiding ambiguity in order to find the balance that reinforces the desired game experience.

Bad reviews and lacklustre sales are typically received by games that fail to communicate the experience that they set out to provide to players as advertised through their intense marketing campaigns. The lack of semiotic cohesion breaks the principles of conversational cooperation by having: text that is inappropriate to the situation in content or style, voices that do not match the graphics, animations that do not correspond to the story, rules that are inconsistently applied within the game, etc. Equally, the four maxims must also be applied to the signs coded by players for the game-machine via the various inputs possible through video game peripherals, for example:

- Maxim of quantity: The wrong amount of peripheral input produces unwanted or no results.
- Maxim of quality: Trying to utilise a peripheral input that has not been programmed for the task in hand yields unwanted or no results.
- Maxim of relation: Activating peripheral inputs randomly produces unwanted or no results.
- Maxim of manner: Partial and asynchronous peripheral inputs yield unwanted or no results.
If the game-machine does not comply with these conversational rules, players will conclude that it has been badly conceived by designers and programmers. If players fail to observe such maxims, the game-machine (and adept gamers) will deduce that they are unskilled players unable to “converse” with the game. Finally, when all layers of semiosis and pragmatics are cohesive within the game-world, the game can be said to have achieved “unicity”. It has become a super-sign that epitomises a unique experience for players. However, if the game is going to be sold in countries that differ in culture, language, and history with that of the original one, such unicity can be easily broken due to localisation. In other words, the changes that become necessary to allow foreign players to access the game have not been assessed accurately with semiotic and pragmatic methodology.

4. The Localisation of video games

Although video game culture is expanding across national borders, and technology allows for contact with gamers from other countries, the vast majority of players interact only with their culturo-linguistic peers. Even with a football video game, arguably one of the most global pastimes that requires fewer explanations for a fan, poor localisation may make players disengage. Only players that are fully bilingual (Diamond & Shreve 2010) and bicultural may arrive at the intended, original semiosis when playing a game in a foreign language. Game localisation, as opposed to translation, is a business concept that has at its core a multimedia interactive entertainment software product, not a text-only product, such as traditional literary translation (Bernal-Merino 2015). A product needs to be localised for legal and technical reasons, as well as linguistic and cultural ones. For instance, without nationally specific age rating and video encoding, games are illegal and display incorrectly. Localisation, as a business concept, highlights the language variety of the geographic area where a language is spoken. Multimedia interactive entertainment software publishers may differentiate between, for example, Spanish for Spain and Spanish for Mexico, represented in the software localisation process as “es-ES” and “es-MX”, which follows the Microsoft Language Code Identifier (MS-LCID). This is a step forward from previous conceptions where all national variations of a given language were ignored and a single artificial “standard” was used, for example one English for all the English-speaking countries in the world. The localisation turn was propitiated by discerning software users in maturing markets, who were no longer satisfied with paying full market prices for products that ignored their basic linguistic needs and requirements (Esselink 2000). Thus, software developers and publishers changed from a single linguistic label, such as “English”, to a system that links language variety and country; as a result, the naming protocol acknowledges that there could be up to ninety-six English possibilities in the MS-LCID. They are rarely used in their totality, but the localisation process accepts, at least in theory, the existence of such varieties in preparation for their employment when needed.
for business and technical purposes. This realisation developed in parallel with website and software internationalisation, the process of designing a product so that it can be easily localised in order to achieve worldwide distribution and success (Chandler & Deming 2012). Localisation has therefore a clear impact on play which turns “playability” into a measurement of quality localisation (Bernal-Merino 2015), similar to “performability” in stage plays and musicals (Nikolarea 2002).

The localisation of video games into national languages has never been mandatory in the game industry, so most companies have often ignored it until competition increased in the mid-nineties. Initially, Europe was the market to conquer, now it is Asian and Latin-American countries (Gwertzman & Sosnik 2011). Full localisation started to differentiate the leading companies from the rest in mature markets prompting the industry as a whole to slowly start planning for localisation to increase their competitiveness and profits between 30% and 95% (Bernal-Merino 2016). According to Chandler and Deming (2012), the game industry tends to group the types of localisation under three main categories: 1. documentation (packaging, manual, technical and legal texts accompanying the game), 2. partial (all in-game written text) and 3. full (everything including revoicing). Said categories correspond to the amount of money companies consider they should invest in each language version, so only countries with mature markets and historically high sales tend to enjoy the highest level of service. Full localisation aims at delivering the same gaming experience that players of the main market enjoy. Figure 1 (below) offers a visual representation of an ideal globally felicitous semiosis following the aforementioned diagram and terminology around game-machine/player communication. Although the game-machine itself changes—because it is physically a localised built of the game with different files—the layers of semiosis and the message remain the same in the “ideal” from the semantic viewpoint for players in other countries.

But even when games are fully localised to a high standard, semiosis can differ slightly from country to country, since the variables in the process (managers, legislators, translators, linguistic testers, players…) change. It should not surprise us given the different historical events that shape each nation. It seems normal that
the laws, taboos and cultural preferences of one country could be insensitive or unappealing for another. Clear examples of this can be seen in some of the main video game markets in the world. Gruesome fighting games such as *Mortal Kombat X* (2015) have considerable appeal in the UK but not in Japan, whilst erotic games such as *Parasite in City* (2013) belong to a popular genre in Japan but not in the UK. On the other hand, *The Evil Within* (2014) is a very gruesome survival horror game developed in Japan, and *Grand Theft Auto V* (2013) is a violent and sexual action game developed in Scotland. Furthermore, *The Witcher 3* (2015) is a Polish fantasy roleplaying game for mature players that required the censoring of explicit nudity to enter Japan but not in England. It is therefore not a question of these countries rejecting explicit violence and sex depictions, but one about expectations for established game genres within each country.

Localisation can affect all aspects of a video game: language, date formats, currency transactions, graphics, difficulty levels, music, storylines, and merchandising (Bernal-Merino 2015). When localising the video game product, the relationship between the signs need to be reconsidered artistically and holistically. The only way to maintain the message of game-machines to players in different culturo-linguistic communities is to articulate localisation around the original creative team through shared-authorship and co-creation (*Ibid.*). Business managers on tight budgets or unaware of the complex communication flows between game-machines and players are likely to ignore the detrimental effects of mixing original and localised signs. The content, manner, synchronicity and appropriateness of signs must be consistent with the game-world, as well as be equal in quality to the experience of players of the source version. Dissonance between signs because of linguistic and cultural differences amongst layers of signs provoke the justified feeling of disappointment in players. As a result, immersion diminishes, even if the game was successful in the source language for its originally or the atmospheric experience it provided players. Therefore, the matrix of signs in table 1 (above) becomes even more complex when localising, because out of the many types of assets that can make up multimedia interactive entertainment software (packaging, documentation, user interface, subtitles, pop-up text, instructions, voiceover, lip-synched dialogue, text-embedded graphics, sound effects, music, website…) some may have to change substantially in order to address the needs of players in other countries (*Ibid.*). Such changes have to be considered from the viewpoint of interactive art and the disciplines of semiotics and pragmatics for they can be robust tools to tests their playability, i.e., whether localised versions ‘play’ as cohesively as original versions. Typical game localisation pitfalls are:

i. Basic translation mistakes and typos (*Final Fantasy VII*, 1997)
ii. Lexical and syntactical calques (*Elder Scrolls IV: Oblivion*, 2006)
iii. Flat performance by actors (*Age of Pirates: Caribbean Tales*, 2006)
iv. Poor writing style of translator (*Suikoden II*, 2000)
Transpositions Between Verbal and Non-verbal Semiotics

v. Inadequate user interface font size and colour (*Batman: Arkham Asylum*, 2009)
vii. Culturally offensive graphics (*Wolfenstein* series)
viii. Taboo language (*Duke Nukem* series)
i. Inappropriate music (*Kakuto Chojin*, 2002)
ix. Inappropriate body gestures (*Dance Central* series)

Localisation does not change directly all signs every time; it tends to focus on written and spoken language, and sometimes graphics and music, but because all signs are semantically intertwined, inadequacies in one layer can clash with other layers. Such pitfalls affect the polysemiotic nature of game-machine/player communication changing the intended original semiosis of the game.

In order to avoid such errors, leading companies begin the process of product internationalisation early on in development (Bernal-Merino 2015 and 2016). This process entails the inclusion of a wide variety of processes, such as foreign writing systems, re-sizable user interfaces, language-aware file naming conventions, date-time and currency variations, remappable controls, music changes, etc. If the game has been well internationalised, localisation can be faster and more faithful to the original version, because the development company has greater control over the accuracy of the localisation process. It can offer information and tools to the various localisation teams around the world so that they preserve the gaming experience for all locales. As an added benefit, creators can protect their intellectual property (IP) and strengthen their brand incrementing their foreign market penetration. The opposite means that semiosis can be disturbed in localised games since all signs are culturally-bound. Table 1 (above) can help game industry professionals to probe the localisation of their products in order to confirm that it does not affect the polysemiotic cohesion of the game. If the game-machine/player communication flow is analysed varying the cultural and linguistic contexts, it is clear that there can easily be mismatches in the equation. While the intention of game creators will be to maintain the game message throughout language versions, this is effectively very difficult with current business practices, because they detach each game asset from the game experience for localisation processing (Chandler & Deming 2012; Bernal-Merino 2015). Only the integration of the localisation team as a creative part of development and publishing, as opposed to outsourcing to companies without access to the game, can bring localisation closer to the ideal felicitous semiosis in all versions. Translation agencies and game localisation companies are often forced to work with decontextualized text-strings listed in excel spreadsheets without seeing, let alone experiencing, the game. The mixing of signs originated by bad or no localisation changes the semiosis in the game giving a different experience to foreign players due to the culturally-compromised polysemiotic confusion.
Creating Felicitous Gaming Experiences

Fig. 2. Mixed semiosis due to poor localisation

Such mixed semiosis of GM1, GM12 and GM13 creates different ludic experiences, which results in disappointed players that feel cheated by game companies investing poorly in localised versions. The implication for the creators of the intellectual property is that the game does not achieve unicity in all languages, it does not become a super-sign for an unparalleled playing experienced, because the cohesiveness between and amongst the layers of semiosis (Table 1 above) is disjointed or completely broken (Figure 2 above). Localisation of polysemiotic interactive entertainment is not impossible in itself, like highly accomplished games prove (*Starcraft II*, 2010), but it does require its integration within the development cycle and the recognition of its semantic and pragmatic impact on the final product.

Conclusion

As multimedia interactive entertainment software products grow evermore present in the daily routines of citizens around the world, it is essential that the disciplines of semiotics and pragmatics analyse the implications of this global flow. Video games offer an ideal polysemiotic object of study because of the way they engage with users. Players have to interact and tailor their experience through their decisions given a set amount of options; options that can potentially manipulate their perception of the real world. A video game is a manner of ludo-artistic conversation that proposes a particular worldview (just like novels, stage plays, comics, films or TV shows) and embeds a pragmatic dimension by adding interactivity. In the game-machine, semioticians can study the cohesion of polysemiotic signs within these artefacts and the pragmatic response of players in innovative ways thanks to game peripherals unparalleled in previous media. The localisation of video games requires playability (Bernal-Merino 2015) as a measurement of quality so that game immersion can be achieved and maintained successfully by taking the suspension of disbelief a step further and creating a convincing personal experience for gamers, regardless of the language version that they are playing (Bernal-Merino 2016). In the professional arena, localisation services vendors can utilise the ideas explained in this article to probe the polysemiotic unicity of their version, and game developers/publishers
can carry out spot-checks on each localisation project to ascertain that the quality expected has been achieved.

As opposed to the real world, all experiences within a video game are made up of artificial signs consciously organised in a very specific way in order to elicit particular responses from users. Players can enter a rather deep state of concentration, which is directly linked to their performance, their achievements and the satisfaction with the game. When signs are cohesively layered by game creators, immersion is achieved and players can engage in successful pragmatics with the game-machine. When such cohesiveness fails, the game-machine has internal, polysemiotic dissonance, which can provoke player discontentment. This can also happen in the original version due to languid game-design, but even more so in localised versions where players experience pragmatic confusion. At times, they do not know what to do because the signs coming from the game-machine are inappropriate, i.e., not cohesively layered. The only way to maintain the message of the game-machine to player in different culturo-linguistic communities is to articulate localisation around the original creative team through shared-authorship and co-creation (Bernal-Merino 2015) channelling auteurs (Gray 2013). Video game localisation, as discussed in this article, evidences that Translation Studies can benefit greatly from an approach to translation theory that integrates Semiotics and Pragmatics as essential tools of analysis to add to the strong linguistic ones based mostly on written text.

Bibliographical references


Gorlée, Dinda (ed., 2005), Song and Significance. Virtues and Vices of Vocal Translation, Approaches to Translation Studies, Amsterdam: Rodopi.


