Introduction

In this Element, we concentrate on the allocation of visual attention in video games from a cross-linguistic and cross-cultural perspective. Our postulate is that there can exist remarkable and yet unexplored mismatches between the experiences of a player who speaks the game’s source language (SL) and a player who relies exclusively on the target language (TL) version of the localised game. More specifically, this Element deals with a subset of attention allocation cases where the structure that is an object of attention for the player is linguistic in nature – it is accessed by them reading a text. We then further narrow down the scope by starting from the premise that these structures vary in terms of prominence. Some of them are more prototypically salient than others, which means they are easier to visually identify and more likely to be interpreted as relevant. At the other end of the spectrum, there are elements with liminal prominence. Whether salient or not, these elements have different functions and rely on different mechanisms, which can pose challenges in interlingual translation.

In the first part of the Element, we contextualise the research by talking about multiple facets of video games (VGs) and outlining the constructs pertinent to on-screen language (OSL) with reference to findings from cognitive psychology as well as research into film translation. Then, in the second and third parts, we demonstrate how analogous elements function in VGs, with data sourced from *Tom Clancy’s The Division 2* (*TCTD2*), developed by Massive Entertainment (owned by Ubisoft), and *Shadow Warrior 2* (*SW2*), developed by the Flying Wild Hog, then an independent studio. Based on the qualitative analysis, we propose a primarily two-pronged typology. First, cases of OSL are showed to differ in terms of their cognitive status: how prominent they are and how likely they are to be accessed by players. Second, they are found to vary functionally, which is motivated by several dimensions that will be discussed. The typology can then be complemented by incorporating the technical parameters of how OSL is implemented into the game. The analysis is positioned against insights from an interview with a professional game creator working for Flying Wild Hog, which discusses how OSL is frequently deployed and can be carefully designed, and thus significant to the player’s meaning-making processes. Critically, our emphasis is on the challenges that these elements create for localisation, especially their implications for receptor experience across languages and cultures. The rationale behind this publication is therefore to gain a better understanding of OSL in VGs as a critical step in minimising interlingual and cross-cultural meaning construction asymmetries.
VIDEO GAMES: THE POTENTIAL FOR ON-SCREEN LANGUAGE AND TRANSLATION

1 On-Screen Language: From Films to Video Games

When thinking of games as products to be translated, one has to consider their complex semiotic set-up. Bernal-Merino (2020: 299) emphases this premise, saying that ‘[a] video game is not a text, although some can contain millions of words. A video game is a digital machine made up of hardware and software that generates polysemiotic virtual experiences.’

Following from that idea, this Element’s central construct is that of attention, or more precisely visual attention. An imperative characteristic of visual attention – and also our guiding idea – will be that it is a limited resource: ‘at any given time only a small amount of the information available on the retina can be processed and used’ (Desimone & Duncan, 1995: 193). A complementary quality is that attention is selective – with the vast array of stimuli around us, we allocate attention to some and do not attend to others (see Section 9.2 for a more detailed discussion).

The specific mechanism we examine is labelled ‘on-screen language’ (OSL), or visual–verbal components of products such as feature films, series, clips and VGs. ‘Visual’ refers to the way in which information is coded in audiovisual material, thus drawing a dividing line between input that is registered visually and aurally. The data is then ‘verbal’ in the sense that it is coded through language, as opposed to cases where the visual elements rely on non-linguistic signs. A further relevant differentiation is between ‘diegetic’ and ‘non-diegetic’ on-screen elements (Matamala & Orero, 2015). The former function within the plot while the latter are explicitly superimposed as the product is edited. The screenshot in Figure 1 illustrates cases of both diegetic and non-diegetic text. The inscription on the banner or the public transport display is diegetic while other information, for example, about the distance from ‘Narodowe Muzeum Historii Amerykańskiej’ (National Museum of American History) being ‘0.3 km’ away (in the upper left-hand corner) is non-diegetic.

We are primarily interested in the diegetic type. The rationale behind this choice is that the cognitive and communicative status of non-diegetic text on screen is unambiguous compared to the status of diegetic text. In this analysis we wish to specifically address the issue of OSL’s status by starting from the premise that stimuli vary in terms of how likely they are to draw attention to themselves. While some stimuli will be more or less prototypically prominent, some will move away from prototypicality, approaching what we term ‘liminality’, whereby prominence is here understood in line with its formulation as a parameter of construal in cognitive linguistics (cf. Langacker, 2008, 2007).
where the term ‘salience’ has also been widely used (cf. Tomlin & Myachykov, 2015). Liminally prominent stimuli are those that can still be accessed by receptors, but the likelihood of doing so is not as high as it would be with prototypically prominent instances. The continuum ranging from the prototypical to the liminal will be discussed in more detail in Section 5. On a conceptual-terminological note, while for ease of exposition throughout this Element we consistently refer to ‘prominence’ of OSL, a notion very much related to prominence – or its constitutive facet – is that of ‘ostensiveness’, which can be defined in line with Sperber and Wilson’s (1995) idea that ostensive stimuli trigger the presumption that they are relevant enough for the receptor to deserve the receptor’s attention.

So far, a limited amount of work has been devoted to these or similar phenomena, primarily in the area of audiovisual translation and media accessibility. Matamala and Orero (2015) talk about ‘text on screen’ in the context of audio description, an accessibility service that can be conceived of as intersemiotic translation, while Deckert and Jaszczyl (2019) and Deckert (2021) investigated it in the context of interlingual film translation, with the latter paper only briefly alluding to VGs.

Specifically with reference to VGs, a complex typology of ‘narrative oriented game text’ considering ‘text function and translation priorities’ developed by
O’Hagan and Mangiron (2013) includes the category ‘art assets, printed materials and other online/screen materials’, which rather neatly matches the construct of diegetic OSL. However, given the more general profile of O’Hagan and Mangiron’s volume, that category of text is not discussed in greater detail by the authors, even though they give examples – such as posters, maps, signs and billboards (156, 162) – and suggest functions (see Section 9.1).

Bernal-Merino (2015: 130) moreover discusses the ‘artwork with words’ in the context of translation – a concept paramount to this Element’s analysis of visual–verbal components – which he describes as something more general than OSL: as part of the packaging, merchandising, the user interface, or the in-game graphic textures. Another term, ‘graphic-embedded text’, is then also used by Bernal-Merino in the context of the need for multi-layered graphic file format to ‘be able to edit the text neatly without altering the original art style’ (see Section 9.3.2), exemplified by ‘linguistic graphic art in game textures’ of Escape from Monkey Island (2000) localised from English into Spanish (130). Graphic-embedded text, which is said to, among other things, contribute to the credibility of the game-world, ‘may appear anywhere in a game, regardless of the genre, and it certainly requires translation in order to keep players engrossed in the adventure and not to alienate them with texts in languages that are not required by the story’ (Bernal-Merino, 2015: 130–1).

Bernal-Merino also recognises that ‘translation of information conveyed graphically … with meaningful cultural and linguistic relevance’ is one of ‘the most common challenges shared between audiovisual and multimedia productions’ (65). He illustrates this with a case of what we name OSL left untranslated in a Spanish version of an originally English-language game, moreover commenting that:

[L]ocalising graphic information is not only time-consuming and expensive; graphics in video games can be easily missed out when translating because this text is stored in an image format within a graphics folder, and it can only be edited with graphic editing software. If game developers do not have a strategy in place to name and process translatable strings stored as graphic files, they are likely to be forgotten during the translation process and be left in the original language in all the localised versions of the game.


We attempt to build on these fundamental claims as well as Bernal-Merino’s (2015: 67) usage of the term ‘on-screen’ in the context of voicing over ‘on-screen signs’ – by an extra-diegetic narrator, in contrast to the remastering of filmic graphics – demonstrating that greater recognition of the potential behind meaningful OSL could benefit the processes of game localisation, the quality of the products, or even their development.
We interviewed Michał Mazur, a game development team representative and the lead level designer for the SW2 game, about the phenomena investigated in this Element, and will be integrating his input into the relevant segments of discussion for an additional insider’s perspective. The interview was conducted in Polish, transcribed and translated into English.

2 Video Games as a Medium and More Than That

2.1 The Economic Context: Popularity of Gaming

The official website of the US International Trade Administration states that the global gaming industry was ‘valued at $159.3 billion in 2020, with 2.7 billion gamers worldwide’ and that statistically ‘75% of US households have at least one gamer’ (International Trade Administration, n.d.). By comparison, the media and entertainment industry – which includes VGs – is valued at ‘$660 billion . . . enduring an estimated $53B or 7.3% decline due to the pandemic’ (International Trade Administration, 2020). In contrast, however, they report that globally, ‘the impact from the pandemic has driven sales [of VGs], with the U.S. seeing a record 31% increase in consumer spending on video gaming and subscription services’ as well as over 13 per cent growth in 2020 mobile gaming revenue, to 77.2 billion dollars. Furthermore, they state that ‘80% of U.S. gaming companies are looking abroad to expand sales’. The popularity of esports is also mentioned, with their projected growth ‘estimated to surpass $2.5 billion by 2024’. In the context of competitive gaming spectacles, the Polish National Agency for Academic Exchange (NAWA, 2020) reported that ‘[i]n 2020, e-sports are projected to enjoy viewership of more than 70 million people for final matches. That’s more viewers than the NBA finals, NHL Stanley Cup finals or the World Series’. They also uphold that ‘almost a third of people on this planet are gamers [who play routinely]’ and that ‘1.2 billion play on a PC’. Games are an object of globally operating businesses, both high-budget and independent ones. They are made by professionals as well as amateurs. More broadly, VGs can be seen as a new, growing industry that is ‘important politically and economically’ (Wong, 2011: 3).

¹ Before it reached the contemporary, global Internet state, it is significant to mention that Japan, the United States and the United Kingdom (Izushi & Aoyama, 2006) were considered particularly major hotspots for its rapid market development.

² Bernal-Merino points out that the interest in gaming is on the rise across gender and age groups, citing substantial average playtime a week: ‘[t]he growth is due to three main factors: the ubiquity of highly capable portable devices, the availability of a wide array multimedia interactive of entertainment software in multiple languages, and the demand for 1st person experiences in new media’ (Bernal-Merino, 2018 as cited in Bernal-Merino, 2020: 297).
2.2 The Socio-Cultural Context

2.2.1 Inclusivity and Accessibility

The US National Library Service for the Blind and Print Disabled website (NLS, 2015) recognises gaming’s potential to ‘boost creativity, improve problem-solving skills, and cultivate teamwork’, while also highlighting some of the resources that have been made available for gamers with disabilities. These resources include: modified controllers, audio adaptations for people with visual impairment and expert accessibility reviews of new games, among a list with almost fifty items at the time of writing. Despite that, the list is said to still not be comprehensive, which gives credence the idea that outside resources for the medium are being developed, yet are fragmented (cf. Bernal-Merino, 2020: 306–8). However, games might be becoming more accessible in a different sense, too.

Lipkin (2019) explains that there are ‘significant motivations that drive independent game developers to create games in spite of worsening economic conditions’, further using the term ‘the Indiepocalypse’ (an amalgamation of apocalypse and the ‘indie’ scene – independent media development) to refer to ‘the result of a predisposition towards creativity matched with technological innovations and structural conditions that make independent commercial game development faster, easier, and more accessible’. Although this points to specific problems of that scene, it also showcases the democratisation of tools and assets for VG production.

Pluralisation of Content

Fisher and Harvey (2013: 1) specify that in gaming ‘there are successful models in which we can observe other, more inclusive, modes of welcoming previously marginalized and excluded groups . . . . The demographic landscape of this culture is radically changing, particularly in terms of age and gender.’ This could indicate pluralistic demographic segments capable of appreciating the potential for an equally diversified supply of game productions manufactured by different groups of people. It corresponds, at least partially, with the opinion of Keogh (2018: 14), who observes that:

[H]obbyists, amateurs, students, and artists ... are pushing videogame development in new directions in terms of aesthetics, design process, and distribution channels. ... [The industry] transitioned from a period of aggressive formalisation through the 1980s to the early 2000s into a more intense intermingling of formal and informal actors and processes in the early 2010s.

What is more, assuming that diversity and inclusivity can function interdependently, all this may contribute to the conception that joining gaming social circles is not a difficult feat, asserting the subculture’s accessibility in its broadest sense. Yet for that, independently developed games are only a portion of the wider cultural
landscape, as Keogh (2018: 14) proclaims: ‘[n]ew audiences, distribution platforms, and development tools are expanding the videogame industry into an ecosystem that is at once broadly global and intensely localised’.

**Heterogeneity of Gaming Communities**

Gaming subcultures can be seen as quite multifarious. The advent of social media brought about local and macro-cultural digital ludic promotion, gaming wikis, dedicated forums, together with preservationism, game archives, new ways for LARPing (live action role-playing) or classic table-top gaming, the sharing of cosplay (costume play) along with casemodding (modifying or tuning the computer’s chassis) and aesthetician computer tune-up photography, story analysis and plot discussions, as well as the production of fan art and fan fiction in ‘casual’ or ‘hardcore’ fandoms (communities sharing interest in the same series).

Moreover, the emergence of esports, competitive and/or charitable gamejamming (a type of tech-skill demo or game development, restrained by specific conditions; cf. Kultima, 2021) and speedrunning (gaining records in games as fast as possible), machinima (cinematography utilising, for example, game engines), game modification communities, such as Nexusmods.com, as well as other formations contingent to gaming culture diversified the way people play games and their reasons for playing. The sharing and distributing of ‘amateur’, ‘homebrew’ games, tech-skill demonstrations and other user-generated content particularly related to game making (cf. Young, 2018; Camper, 2005) also contributed to this.

But aside from ‘accessibility within’ gaming, ‘accessibility to’ gaming is rapidly developing alongside. Chiefly, prospective players can easily find information online on the titles they wish to experience. This includes creations that could even be very niche. It is also relatively easy to find detailed, novice-friendly instructions for proper VG and hardware installation. Most importantly, though, the digital releases of VGs are overtaking physical ones on the global market. This arguably makes it easier to acquire games, as well as their localisations, whether official or fan-made. Assuming this, and the growing

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3 We wish to point out that these two sources are academic theses. Although that does not imply inferior quality, it highlights the scarcity of relevant publications and thus indicates some of the challenges of working with under-explored (or contentious) topics. As said by Jeff Vogel of Spiderweb Software during a 2018 Game Developers Conference, ‘[The film industry] is a far better understood industry than ours. Video games are young, nobody knows anything. We’re still scrambling to figure out how do we design these things’ (GDC, 2018b: 7:42–8:00).

4 Analyst Michael J. Olson and Yung Kim estimated in a report for Piper Jaffray ‘[V]ideo games will be ~100% digital in the coming years, and while exact timing is hard to pinpoint, we think 2022 is a realistic expectation’ (quoted in Palumbo, 2018).

5 Assuming that localisation and media accessibility, in their broadest sense, help to enable as wide an audience as possible, regardless of their capabilities, to access the content of individual pieces of media as close to their original potential as possible – whatever that might mean case by case.
academic interest in VGs, one could advocate that the idea of a small, hermetic ‘gaming-toy’ culture is certain to be brushed off as a tired stereotype by today’s standards.

2.3 Myths, Controversies, Anachronisms and Stereotypes

2.3.1 Demoralisation and Mature Themes

Although it may be true that ‘[l]ong gone are the days when hobbyist bedroom coders with access to digital computers and ‘how to’ articles of basic video game code, jump-started the formation of the video game industry’ (Izushi & Aoyama, 2006, as cited in Wong, 2011: 1; cf. Wolf & Perron, 2003), such practices are still very present and becoming increasingly commonplace for enthusiasts. In short, ‘[t]oday video games . . . are in practically all American households’ (Amick et al., 2015: 1) and ‘playing video games has by now become not only an acceptable leisure activity but also a popular one for people across the world’ (Bernal-Merino, 2020: 297).

Despite this, there are still some controversies around the proliferation of games, which need to be thoroughly considered, as they pertain to health, safety and ethics. Alongside such vital, yet heated discussions like the hazards of VG consumption in the era of their popularisation, the question of research fragmentation and lack of clear scientific consensus in the findings is worth discussion. Ferguson and Colwell (2017: 321) suggested the following:

[S]cholars disagree widely regarding video game influences and . . . do not appear to be immune to the types of generational and experience effects that influence opinions in the general public. . . . There are numerous possible causal chains that might explain links between discipline, negative attitudes toward youth, video game experience, and negative attitudes toward video games. Given that current data are correlational, no causal attributions can be made.

The notion that VGs as a medium are unsuitable for children or are fantasies for adult escapism has also been contradicted by statistical data from organisations such as the Interactive Software Federation of Europe, whose Pan-European Game Information (PEGI) system in 2020 rated 23 per cent of the products as adequate for children aged three, then 21 per cent and 27 per cent of them respectively for ages seven and twelve. This, however, does not mean that there are no VGs directed at adults. It is quite the opposite. Some VGs tackle difficult or extensively philosophical topics – and many a time such games become cult classics. To touch on that aspect, Max Derrat, a YouTube creator

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6 This counterargument was put forward by Bernal-Merino in June 2021 during an online workshop at the School of Translation and Foreign Languages of The Hang Seng University of Hong Kong entitled ‘New Translation Studies Challenges and New Job Profiles’.
advocating for the academic value of VGs alongside books, music, poetry and movies, opens his personal list of the ‘Ten Most Profound Games Ever Made’ hypothesising that ‘some games . . . reach such a level of sophistication that they demand vigorous intellectual inquiry’ (Derrat, 2018: 0:10–0:17).

2.3.2 Violence and Substance Abuse

In the aforementioned PEGI report, games from that period – even those allowed for children aged seven and twelve by PEGI – were also shown to be more likely to be rated as ‘violent’ than by any other content descriptor. Nonetheless, it is worth remembering that there will be differences when it comes to the kind and intensity of what could be broadly termed ‘violence’. Moreover, when analysing such a complex issue as violence in video games, it may also be crucial to consider the context and intention behind the implementation of what can be considered ‘violent’ in media, on a case-by-case basis. Bernal-Merino (2020: 298) references the labelling of games as adequate for exposure to children (aged three to sixteen) despite such descriptors, ultimately claiming that ‘the majority of games available are not violent or gory’.

Furthermore, a recent study by Turel (2020: 2) has found that ‘the moral panic over [assaults and] video games is largely unsubstantiated, especially among light to moderate gamers’. Although not directly relating to violence, this can be further substantiated by the findings on aggression produced by Ferguson and Wang (2019: 9), who posit that ‘[a] daily hour spent on M-rated video games would result in an increase of 0.022 in the measure of physical aggression. By this metric it would take 27 h/day of M-rated video game play to raise aggression to a clinically observable level.’ On a related note, a piece titled ‘Do Video Games Kill?’ points out that ‘focusing so heavily on video games, news reports downplay the broader social contexts’ (Sternheimer, 2007: 14).

Others relate this concept to frustration more than to the virtual violence itself: Przybyłyski and colleagues (2014: 455) found that the ‘impedances of player competence satisfactions increase cognitive, affective, and behavioral aspects of aggression’, and that ‘these effects were wholly independent of violent game contents’. Psychological need-thwarting is not exclusive to gaming, but relates to a ‘myriad ways across most life domains’ (455). This invites comparisons with the issue of violence in other audiovisual media, such as television and cinema (cf. e.g. Bareither, 2020), but this would go beyond the scope of this Element.

7 According to Sternheimer (2007: 15), ‘Aggression includes a broad range of emotions and behaviors, and is not always synonymous with violence.’
Another point of contention is that VG consumption may correlate with escapism through narcotics. The conclusion of Turel and Bechara’s (2019: 384) research into substance abuse is that ‘light video gaming can be protective in terms of substance use, while too much video gaming is associated with increased substance use’. Moreover, the aforementioned report by PEGI only saw a small minority of games content-described with ‘drugs/alcohol’ — none of which were targeted at children aged three to twelve.

All this suggests that the concerning phenomena of violence, hedonism and other, general cases of what might be named ‘the corruption of children’, if they happen to occur together with VG consumption at all, ultimately seem too multifaceted and multifactored as correlates to definitively conclude either way.

2.4 Potential and Utility

Contrary to some of the claims in the previous section, gaming is repeatedly portrayed as beneficial beyond recreation (cf. Gee, 2005). As Bavelier and colleagues (2012: 1) claim, ‘Over the past few years, the very act of playing action video games has been shown to enhance several different aspects of visual selective attention. . . . [A]ction game players may allocate attentional resources more automatically, possibly allowing more efficient early filtering of irrelevant information.’ Accepting this, it may not be surprising that the potential of VGs have seen widespread use in niche contexts outside of entertainment.

2.4.1 Institutional Importance

Computer games, on top of building on a rich ludic history, see use in contexts such as training and simulation (Pursel & Stubbs, 2017: 277–95), education (Janarthanan, 2012), research (Bohannon, 2014; Lv et al., 2013; Khatib et al., 2011), activism (Whaley, 2015; Bogost, 2006), health and rehabilitation (Lieberman, 2012; Griffiths, 2005) and more.

Prominent sources like New York’s Museum of Modern Art have recognised that at the least some VGs can be artistic. Then senior curator at the museums architecture and design department, Paola Antonelli (2012) said: ‘Are video games art? They sure are, but they are also design.’ However, it is not just art galleries and similar institutions that take interest in VGs: ‘[Games] are a major driving force in electronic innovation and development. Though you would hardly guess this from their modest beginning’ (Amick et al., 2015: 1).

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8 An analogous report for 2019 appears to be unavailable, however the results from a similar report from 2017 have been comparable (Pan European Gaming Information, 2019).
9 This point is further developed in Section 9.2.