

Research Article

B|Orders in Motion in the Video Game Industry: An Analysis Based on *Animal Crossing: New Horizons*

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In 2020, the video game *Animal Crossing: New Horizons* was listed among the top ten in terms of revenue. This success can be highlighted by looking at interconnectedness between the game—existing in the virtual world—and various aspects of life existing in the real world. To do so, we analyze the game by relying on an interdisciplinary framework of border studies. This framework expresses that the three states of borders (durability, permeability, and liminality) can be interpreted not only in a geographical sense but also in terms of a temporal dimension as well as a cultural dimension. Considering cultural (fashion and museums), political, and economical aspects of life, we highlight how this game blurs the borders between the real and virtual world. Furthermore, our findings assert that not only borders but also orders can change over time (B|Orders are in motion).

1. Introduction

In 2020, several countermeasures were implemented during the Corona pandemic. These measures reduced and limited the space for real life activities and defined new borders for the real world. In some countries, measures as drastic as “stay at home orders” were established. (The *Oxford Stringency Index* provides information about the measures taken by various countries, using eight dimensions: (1) School closures, (2) workplace closures, (3) cancellation of public events, (4) restrictions on gatherings, (5) closing public transport, (6) stay at home requirements, (7) restrictions on internal movements, and (8) international travel control. See [1], p. 173 for a description of the index and an application related to US unemployment data on a US state level.) “Stay at home” requirements define borders and reduce the permeability between, for example, the home and the outside world. (With special permission, people might be allowed to go grocery shopping or visit a doctor—so that not only the borders but also the orders are in motion. We will define and elaborate the “orders in motion” in Section 3.) Within Maslow’s hierarchy of needs [2], the impact of

the pandemic on basic and psychological needs is evident: the COVID crisis reduced security and safety, which affects the second level of the pyramid’s hierarchy. Factors such as job loss, fear of being infected, the social pressure from preventive instructions, and less frequent contacts with family and friends are all causing changes and psychological challenges.

The effect on overall economic activity has been negative [3]. There has been a tremendous negative impact on, for example, the aviation and tourism sector. However, not all industries have suffered: online businesses such as *Amazon*, *Zoom*, and *Netflix* have been able to expand. Also, the video game (See [4] and [5] for definitions of video games.) industry profited from the fact that schools, work, and leisure activities have been restricted [6].

In March 2020, at the peak of the first Corona lockdown, a newly released game *Animal Crossing: New Horizon (ACNH)* took the market by storm. (With total revenues of \$654 million, it is ranked seventh out of the top ten ‘premium games’ of 2020 [7].) Zhu [8] explores the psychology behind the video game and explains that it provides a dreamland for players to temporarily escape from cruel

reality, and there is a risk of becoming lost in escapism. However, the virtual world can also be regarded as a perfect social platform which allows for maintaining social interactions with others to get rid of loneliness.

The work of Zhu [8] already highlights the distinction between the real world and the virtual world. In this paper, we analyze *ACNH* from the perspective of border studies. We apply an interdisciplinary heuristic [9], which has the following two dimensions:

- (i) The “state of the border”: its durability, permeability, and liminality
- (ii) The “types of borders”: geographical, temporal, and social

This paper is structured as follows: Section 2 describes the game, and Section 3 describes the theoretical framework. Empirical results are derived in Section 4. The last section presents our conclusions.

2. *ACNH*: Description and Classification

ACNH is a game launched in 2020 for the Nintendo Switch console. This open-ended game is of the adventure, puzzle, and life simulation genre. In-game time is synchronized with the real world. After the players embark on a desert island with animal inhabitants, they have the freedom to set their own goals to complete in-game activities. Without any form of competition, players engage in activities such as interacting with the inhabitants, fishing, planting trees, collecting bugs, and designing and building houses. The game has a creative platform where collected resources can be crafted into items such as useful tools, clothing, and furniture. In addition, the players decorate their island and houses [10].

“Nook Inc.” is an in-game development company that helps players in day-to-day activities. Business transactions are possible in the game, where players can buy items and sell their collections to Nook’s store for Bells (the in-game currency). Interaction with other players and sharing experiences is possible. Players can visit other islands and also invite other players to theirs. Invitations can be sent to an in-game “best friend list” or through a “Dodo Code” to whomever is interested [11].

To some extent, the desert island could be interpreted as a homage to Daniel Defoe’s novel *Robinson Crusoe*. However, the narrative form can be better described as a comic or fable. The fable seems to be the most appropriate since one never knows whether the avatar displays an animal, a human, or a hermaphrodite being. Due to the reduced complexity of the graphics, Ihring [12] describes the game as a “toddler version of gaming successes of the early noughties such as ‘Second Life’ or ‘Sims’.” (In the German original version: “Das Spiel [...] wirkt optisch wie die Kleinkindversion von Gaming-Erfolgen der frühen Nullerjahre wie ‘Second Life’ oder ‘Sims’ [...]” [12].)

The description *toddler version* was chosen because of the appearance of the avatars. This might be associated with the concept of baby schema (Kindchenschema). “Ethologist

(the Merriam-Webster dictionary defines ethology as a scientific and objective study of animal behavior especially under natural conditions) Konrad Lorenz defined baby schema (Kindchenschema) as a set of infantile physical features, such as round face and big eyes, that is perceived as cute and motivates caretaking behavior in the human [...]” [13], p. 9115. The cuteness of the *ACNH* avatars increase their likability which might be one explanation for the tremendous success of the game. The reference to the early noughties implies that the game can be regarded as a flash back in time. (In 2020/2021, retro games are also very much in fashion.) The temporal dimension of borders will be introduced in more detail in the following Section 3.

3. Borders in Motion: Description of the Concept

The basic interdisciplinary heuristic idea of “Borders in Motion” conceives borders not only as geographical, but also as social and temporal separations and connections. This multidimensional concept is thus approached through corresponding analytical dimensions [9].

It is also very important to stress that borders in this way are not just “there,” but are actively produced anew and differently in performative practices of border drawing. The practices of drawing boundaries thereby run counter to the practices of dissolving boundaries ([9], p. 13). This implies that the formation, preservation, maintenance, transformation, and abolition of borders impact internal orders. Thus, not only are the borders in motion but also the orders can change over time too. Within one society, borders are established, defended, transformed, and dissolved by the government (legislative, executive, and judiciary), other organizations (for example, the media (Bigl and Schlegelmilch [14] analyzed reports on video games in the main news programs of German television channels. The study indicated that 48% of game players in Germany are women. However, in the media coverage of video games, the report protagonists are predominantly men. This reflected the role of media in stereotyping the dominance of male players and undermining the representation of femininity within games) and NGOs), and also individuals.

Table 1 contains the heuristic from Schiffauer et al. [9] which will be applied in this paper. This table heuristically distinguishes the three states of borders (analytical dimension 1 (horizontal)) through structuring them with the three types of borders (analytical dimension 2 (vertical)). Combination of these two analytical dimensions results in 9 unique intersections. These particular intersections are used to analyze borders in the real and virtual world based on the interdisciplinary examples discussed in the next section.

Durability deals with the forms and consequences of the establishment of borders, their dissolution, and their possible reconstitution. Within this state, the following aspects are examined: how are borders actively established, how are inside–outside relations constituted, and asymmetries installed and maintained? What consequences do the dissolutions of a border have? ([9], p. 18).

TABLE 1: Framework: state and types of borders.

		State of the border		
		Durability	Permeability	Liminality
Types of borders	Geographical	1	4	7
	Temporal	2	5	8
	Social	3	6	9

Note. Source: own representation based on Schiffauer et al. [10], p. 16–18.

Permeability treats, for example, how the fine regulation of borders takes place. Which persons, objects, and information cross a border, and which do not? How are decisions made about the selection of persons, objects, and information to cross the border and those to be denied? How is the policing of the border implemented in practice—and how do attempts to regulate the border in turn produce forms of subversion? ([9], p. 19).

Liminality can best be defined as an overlapping era or area where borders do not strictly separate two spaces. These in-between spaces and gray areas are central to the understanding of the problem of boundaries, because in them, transitions from one order to another are prepared, implemented, and mastered. In these spaces, the orientation and control function of borders are partially or completely suspended. They are therefore spaces in which the potential for innovation creates the possibility of “new space” as well as the possibility of anomie and the loss of meaning. The investigation of in-between spaces, gray zones, transitional phases, and hemlines is more suitable than any other to make the creation of order and meaning by borders recognizable in their simultaneously orienting and disciplining effect ([9], p. 19–20).

In accordance with the given definitions, intersections 1, 2, and 3 in Table 1 represent demarcations of systems in accordance with *spatial existence in the inside or the outside*; *temporal terms of before and after*; and *social categories*, respectively. Intersections 4, 5, and 6 represent *authorized/denied movements of people, goods, and information/symbols*; *elements of past that are preserved/abandoned in the present*; and *social mobility where permeability or non-permeability applies*. Intersections 7, 8, and 9 represent *transitional zones* in the respective types of borders ([9], p. 16–18).

Figure 1 illustrates the three main states of a border. This triadic distinction is an analytical and heuristic one: In practice, all three states regularly occur in combination with each other, but with different weights ([9], p. 13).

Other studies, such as Milgram and Kishino [15], have examined the real and virtual world by the use of a *virtuality continuum*: The two corners to the left and right are labeled *real* and *virtual environment*, respectively. Located between these two extremes are the areas labeled *augmented reality* and *augmented virtuality*.

This concept might be used to determine in which part of the continuum the subject of interest is located. This question might be answered in the border framework by taking video gaming as an example. Game players are positioned in the liminality type of border depicted on Figure 1 as an overlapping between the real world and the virtual one

exists. The additional analytical dimensions of borders, their durability and permeability, can also be applied as a useful frame for the analysis of the spatial characteristics of the game. Finally, the more detailed borders approach can also be used to answer questions on how spaces might integrate or separate, why borders are stable or unstable, and what the societal implications are.

4. Empirics

The following interdisciplinary examples for the interconnectedness of the real and the virtual world, as we find it in *ACNH*, stem from fields of culture, politics, and the business world that are covering major aspects of life. The first example is from the world of luxury fashion brands. This haute couture fashion is overlapping with the field of arts: Every season, the borders of what art is and what is allowed to do are questioned, pushed, and redefined. The second example of museums can also be subsumed into the field of culture. The third example stems from the field of politics where we, among others, focus on the question of how Joe Biden and Donald Trump positioned themselves towards the *ANCH* community. Some players created a “MAGA” cap which highlights that fashion can also be used to make a political statement. The fourth and last example stems from the field of economics: We highlight how the interest rate cut of the virtual central bank affected the virtual life of the players and how it changed their investment and labor supply activities to earn virtual currency.

4.1. Fashion, Models, and Influencers. The gamification of fashion has established strong interconnections between the users of the game and fashion companies as well as (graphic) designers, models, and photographers. Fashion is designed by either the gamers themselves (“Fans want to be part of the artistic process.” The founder and creative director of the company which invented the dating simulation game *Monster Prom* said fans have crafted hundreds of themes, including one inspired by drag queens [16]. This is also related to a business model pattern called outside-in: Ideas from the outside are systematically screened in order to develop own-products [17].) or the fashion companies (Gucci, MCM) which upload part of their collection to the game. For example, MCM digitized a \$495 jacquard skirt and a \$750 velour track jacket, among other items from its fall and winter 2020 collection. This kind of virtual outfit can be regarded as a status symbol: Unfortunately, “I can’t quite afford Gucci right now,” one gamer explained [16]. Social borders that are still existent in the real world may

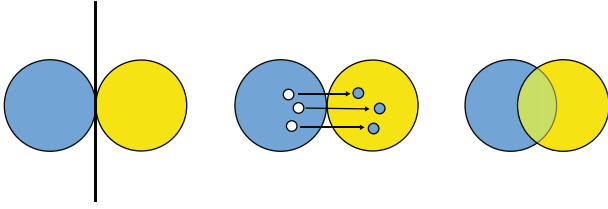


FIGURE 1: Durability, permeability, and liminality. *Note.* Source: own representation.

become permeable in the virtual world. In the real world, luxury fashion is regarded as one of the “esteem needs” of Maslow’s hierarchy of needs [2].

Scott [18] describes the most recent developments in the evolution of fashion and avatars: In the first part of the COVID crisis, brands promoted their lines on digital runways—elite fashion brands used avatars to showcase their real-world designs. Afterwards, the avatar and digital goods market began to grow. “Now, we’re seeing an influx of apparel brands presenting similar digital collections as before, BUT the apparel on display can be purchased both for human and avatar. The circle is complete and the paradigm has changed” [18].

Customization options available in *ACNH* allowed players to recreate notable real world designer pieces for their own characters. An Instagram account *@animalcrossingfashionarchive* having 50 k followers had started archiving some of the finest customized designs from players. The famous Swedish-based global payments and shopping platform *Klarna* decided to collaborate by making a virtual pop-up shop after selecting ten top designs from the page [19]. Another popular Instagram account *@nookstreetmarket* provides designs that resemble some real-life garments [12, 20].

Marketers for Gillette Venus had the idea to pronounce the personality of an avatar and to make the look more unique. Gillette created a custom line of 264 designs, reflecting 19 skin and body types in 8 tones, including acne, cellulite, and prosthetic legs [16]. In modern society, uniqueness has received much emphasis and attention. For example, Reckwitz [22] talks about the *Society of Singularities* in order to analyze the transition processes and conflicts in postindustrial society. Especially, he describes contemporary society as a system of evaluation that distinguishes particularity and uniqueness.

In the marketing literature, Gillette’s marketing campaign serves as a good example for *individual* marketing. This term refers to tailoring products and marketing programs to the needs and preferences of individual customers. (This is also called one-to-one marketing, customized marketing, markets-of-one marketing, and micro marketing.)

4.2. Museums Move into the Virtual World. The COVID pandemic led to a lockdown of cultural life (concerts, cinemas, and theaters). Museums as well had to close their real exhibitions in galleries, but the museums’ online collections were still available to the public. The J. Paul Getty Museum took the chance and offered some *ACNH* users the possibil-

ity of transforming their paintings into their virtual world. “By letting users upload images free from their own legitimate digital collections, museums [are] seeking to remain relevant” [23].

Some other museums followed this initiative, so that the virtual *ANCH* world nowadays hosts an in-game museum available all over the world with several masterpieces. One official from the San Antonio Museum of Art explained: “At some point, artworks like these lived in somebody’s home, so there’s some nice symmetry there” [23]. This implies that art that once decorated the homes in real life were afterwards displayed in real museums to the public at a specific location and later in their online collections. Nowadays, the masterpieces are back in peoples’ homes—however, only in their virtual world. This is a good example of geographical borders and to some extent touches all three state dimensions.

Considering the social dimension in particular, in the old days, only very rich individuals had access to the masterpieces. The permeability increased tremendously since people who were able and willing to pay the entrance fee had access to arts displayed in museums. However, in *ANCH*, the price of owning a virtual copy of a painting is basically zero. Therefore, nowadays, much broader strata of the population have access to such forms of art.

4.3. Politics. The “Hong Kong pro-democracy” protests (Another example where the Hong Kong protests influenced the world of video games is how in 2019, the game developer *Blizzard Entertainment* banned one sports player from a tournament held for the game *Hearthstone*. The player showed support of the Hong Kong protests during a live streaming interview. The player was banned for one year from any tournament, and the contracts of two employees involved were terminated. The general public, other sports players, and also former and active employees of *Blizzard* reacted with a boycott movement. A letter from Congressional representatives (US) prompted *Blizzard* to reduce the punishment. Some claim the ban was a way to maintain *Blizzard’s* relationship with the Chinese government and its partial owner *Tencent*, a Chinese technology giant. Later on the ban was reduced to six months after *Blizzard* claimed that its relationship with China had not influenced its initial decisions [24].) had taken its cause to *ACNH*. This sparked a reaction from the Chinese government in the form of removing the game from E-commerce platforms in China. Although this was not announced officially, the Chinese government sent a message to sellers on the Alibaba-owned *Taobao*. Since the game is completely banned, people opted for imported consoles from the gray market [25].

During the US presidential election campaign, Senator Biden tried to capitalize on the game’s popularity by launching a virtual field office for voters and designing downloadable yard signs that could be used by game players [26, 27]. Figure 2 gives an impression of the yard signs. Also, the Democratic Representative Ocasio-Cortez followed this trend when she visited supporters’ islands [28]. The game is a good example of a two-sided platform: (A two-sided platform combines two sides of a market. One side attracts



FIGURE 2: Joe Biden's *ACNH* campaign. *Note.* Source: Pesce [31].

users: The price is frequently set to zero in order to attract the largest customer base possible. Therefore, this strategy is also referred to as “Free,” as a business model. The other side of the platform charges positive prices, and the “large customer base” is sold to advertisers. For example, *Google* allows the public to use its search engine free of charge but sells its customer base to companies, which pay for advertisements ([17], p. 92.) On the one side, the huge numbers of players and their involvement makes *ACNH* interesting for Biden's campaign. On the other side, the addition of yard signs also helps gamers to decorate their gardens and to express their political standpoint. Both sides profit from the existence of each other [17].

While some Trump supporters created “MAGA” caps to express their political standpoint, a Trump campaign deputy countered Biden's initiative in his very own way: “This explains everything: Joe Biden thinks he's campaigning for president of ‘Animal Crossing’ from his basement [...] The Trump campaign will continue to spend its resources campaigning in the real world with real Americans” [29].

The two politicians have different views with respect to the state of the border: While the Republican politician presumes that the virtual and the real world are still separated by a stable border, i.e., durability, the democratic politicians seem to believe in a liminality of the two spaces or at least some form of permeability. The Republican politician directly addresses Biden and criticizes his view—or at least makes fun of Biden's virtual campaign. Therefore, this is also a good example for how borders are negotiated in the public sphere (discourse).

Activists from Hong Kong spread messages in *ACNH*, which led the game to be then banned in China. (Jiang & Fung [30] mentioned that digital entertainments in China has become part of everyday life. However, in response to globalization, China has adopted neo-techno-nationalism by making defensive and reactionary policy decisions towards globally imported cultural products such as video games. These strategies are mainly aimed at protecting eco-

nomical and political benefits.) This reflects a spillover from the real world to the virtual world and then back to the real world. The ban has also resulted in the growth of transactions in the gray market. These factors imply permeability of borders. In addition, following the virtual election campaigns, in November 2020, Nintendo [31] released a guideline for business and organizations that persuades them to refrain from “bringing politics into the game” [32].

The release of this guideline from Nintendo and also the reaction of the Chinese government underline that not only borders but also orders are in motion: The rules are adjusted by Nintendo to avoid any actions that might be regarded as damaging the reputation of Nintendo or having a bad influence on the *ACNH* community.

4.4. The Bank of Nook and the Interest Rate Cut. In *ACNH*, players can deposit their virtual currency (Bells) with the *Bank of Nook* in order to earn interest. In April 2020, the interest rate was reduced from 0.5% to 0.05%. Some players argued that this interest rate cut mirrored the monetary policy of central banks in the real world, which also reduced their rates due to the COVID-19 shock [33]. In the above mentioned framework, this is an example of a semipermeability between the real and virtual world in the social dimension.

Other market observers interpreted the cut as a measure of the game developer Nintendo to discourage the attractiveness of time traveling: Previously, players had been manipulating their game console to travel well ahead in time in order to acquire a huge amount of interest on their deposits [33]. (In order to avoid having gamers travel even farther into the future, Nintendo enacted another measure: From April 2020 onwards, the maximum amount of savings was capped at 9,999 bells [33].) Time traveling is an example of permeability of a border in the temporal dimension. The reaction of Nintendo can also be interpreted in a way that not only the borders, but also the *orders are in motion*: Rules

are adjusted in order to strengthen the durability of the border.

In order to compensate for this negative shock on income, players discussed various alternatives: One alternative source of income could stem from searching for tarantulas. The spiders appear relatively seldom and only during the evening or at night. After a catch, a spider can be sold for 8,000 Bells. This activity is relatively time-consuming and dangerous, since a bite causes the avatar to faint. (Another alternative to generate revenue is to go fishing and sell the catch afterwards. Van Ooijen [34] analyzes the killability of animals in video games and raises ethical concerns. He demonstrates that fish are a prime example of a class of animals raising less moral concerns, even in supposedly ethical and animal friendly games.) Another alternative source of income is an investment in turnips. Turnips are sold to players only on Sundays during a specific time period for prices between 90 and 100 Bells. For the next week, turnips can be resold to other players or shops. Prices vary during the week within a range of 15–800 Bells [35]. This investment is risky since the turnips' price varies during the week and they rot on Sundays, so that they become worthless [36].

Therefore, it becomes clear that the interest rate cut of the *Bank of Nook* changed the incentive structure and thereby the behavior of the players. Especially, it changed the risk attitude of the players, who engaged in riskier behavior. (It is a well-known fact of economic theory that a change of one price changes the behavior of households and also has spillover effects on other markets. For example, in the portfolio balance model [37], an expansionary monetary policy of the central bank makes, c.p., domestic and foreign bonds more attractive, increases demand, and affects asset prices.) The borders between markets and activities became unstable. In the above mentioned framework, this would be an example of a durability in the social dimension.

5. Conclusions

Borders in Motion is a well-established heuristic for analyzing interdisciplinary phenomena in the real world. We applied this framework to the virtual world of a video game. We showed that the borders are in motion in the three states (durability, permeability, and liminality) as well as in geographical, temporal, and social dimensions.

Additionally, we highlighted that also the *orders* are in motion, since the game developer actively changed game settings and rules in order to react to the (mis-)behavior of the players. It becomes clear that some borders in the virtual world are not yet clearly drawn. For instance, a redditor questioned whether it constitutes as cheating when a man visits another girl's *ACNH* island [38] or whether it counts as a domestic emotional abuse if a man destroys the island of his girlfriend after a small disagreement [39].

In order to generalize our findings, one could broaden the scope and also apply it to other games. For example, in June 2020, *Fortnite* removed police cars from their game during a time period where there was a national debate in the USA over law enforcement practices in response to the killing of George Floyd [40].

Therefore, future research could focus on other games or game genres. Furthermore, it could also be used to characterize the development of games and the gaming industry over time.

Data Availability

Data derived from public domain resources.

Conflicts of Interest

The corresponding author states that there is no conflict of interest.

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