Satirical Game Design: The Case of the Boardgame *Construction BOOM!*

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ABSTRACT

To recognize satire, the audience must be aware of the context and the satirical intent of the work in question. Academic research on the possibilities and effects of satire in games is minimal, if compared with other rhetorical uses of playful interaction. This paper contributes to our understanding of satire in games by discussing and annotating design decisions that were meant to be taken satirically. More specifically, the focus of this paper is *Construction BOOM!*, a tile-laying boardgame designed by the some of the authors of the paper (Gualeni and Schellekens) themselves with the overt intention of satirizing the current situation of real-estate development in Malta. Part of our contribution consists in leveraging the notion of the 'implied designer' as articulated by Van de Mosselaer and Gualeni to show how game elements participate in the player's inferring a satiric implied designer for the game. The paper highlights the opportunities available for designers to implement satire into the various elements of a game and opens the door to further research into exploring how much these elements influence the perception of satire by players.

KEYWORDS

satire, game studies, social critique, game design, activism, rhetoric, implied designer

1 INTRODUCTION

According to American newspaper columnist Molly Ivins, "Satire is traditionally the weapon of the powerless against the powerful" [33]. The state of the construction industry in Malta caused us to experience a sense of political powerlessness [4, 23, 64, 67] as

citizens lacking tangible influence on the decision-making process. This situation ultimately fueled the frustration and indignation that resulted in the creation of *Construction BOOM!* [29].

The game was designed with the intent to critique what the authors perceived to be the absurd nonchalance of the general population in the face of the unrestrained real estate development that they were confronted with, and impacted by, on a daily basis. National alarm was only raised following a number of collapses adjacent to construction sites in 2019 [4, 10, 23, 62, 64, 67] and also provided the impetus to the development of the game mechanics of *Construction BOOM!* [29].

As authors of this paper and designers of the game, we believe *Construction BOOM!* to be a helpful case study in game studies and game design research concerning the possibilities of playable satire. The case study is limited to a preliminary theoretical analysis as playtesting has focused on refining gameplay and mechanics.

Serious games, including artgames and newsgames, have been used to persuade and participate in the public debate [7, 57] using a broad range of rhetorical tools, including irony, caricature, parody, and procedural rhetoric. While the analyses of this type of game often discuss the many rhetorical devices common in satire [39, 41] it has not delved deeper into defining the concept of satire itself as applied to games. Outside of Ferri's scholarly reflections on the satirical digital games by Molleindustria [20], a theoretical framework on the analysis of satire in games by Caselli et al [13], work by Wills on *Far Cry 5* [70], and Gualeni [28] on self-reflexive games, among a few others, academic literature and research related to satire has not focused on games and is primarily concerned with print and TV [60]. By providing an analysis of our game design decisions, we hope to contribute to the understanding of how games can be satirical (i.e. which elements can convey satire and how) as well what practical aspects the designers of satirical games may need to consider.

In pursuing that purpose, we consider it necessary to examine the concept of satire in more depth and to understand how games express satire [13] including their unique ability to use procedural rhetoric [7]. Furthermore, we will need to elaborate on the perception of the player. We decided to pursue this step through the use of the 'implied designer', a concept introduced by Van de Mosselaer and Gualeni [66]. This concept will be conducive to revealing, in section 3, that the perception of satirical intent is a crucial factor in the impact of the persuasive message of satire.

2 FRAMEWORK FOR SATIRICAL ANALYSIS

The concept of satire has been notoriously difficult to define, with some scholarly consensus even going so far as to conclude that defining satire is impossible [15, 18, 19]. There is, however, agreement on a number of non-essential features of satire such as irony, humor, parody, caricature, and criticism with intent to persuade or inspire social reform [15, 19, 27].

In our analysis we will use the theoretical approach to the key-components of satire in games by Caselli et al. [13] and the framework designed by Treanor et al (specifically as a tool for journalists to create newsgames) [65] to provide a foundation for a preliminary evaluation of how satire can be expressed through various game elements. Therefore our analysis relies heavily on porting the concept of satire, which originated in the field of literature and literary criticism, to both digital and analogue games by Caselli et al [13].

Caselli et al. [13] build, in part, on Declercq's [18] definition of satire and likewise identify critical intent and entertaining purpose, and the interaction between them, as fundamental to satire. In this respect the other non-essential features are, as Declercq states, typical of satire inasmuch as they assist in fulfilling the purpose of critiquing and entertaining. Therefore, it will be important to consider their use as tools, or 'satiric strategies', to criticize and to elicit entertainment. However, they are not individually indicative of the satiric intent of *Construction BOOM!*. In the following case study, we will demonstrate how these various non-essential characteristics serve the purpose of either critique or entertainment and have a role in their respective interactions.

Game designers have a number of tools at their disposal to communicate the game's satiric intent which can be broken down into operational elements and interpreted components [65]:

- Operational Elements
  - Entities,
  - Meters,
  - Goals,
  - Perspectives,
  - Game Mechanics
- Interpreted Components
  - Game Dynamics
  - Themes
  - Aesthetics

We have opted to structure the analysis of *Construction BOOM!* in accordance with the various components of games as identified by Treanor et al. [65]. The reason for this division is twofold: (1) their framework was designed to be used as a practical design tool and (2) the framework's separation of the game components into individual units of meaning without conflating them into the description of the mechanics [1] allows assumptions about a game's meaning to be explicit and not conflated into the descriptions of the mechanics. In the following, we will interpret each identified and defined component of Treanor's framework as a tool for for our satiric strategies and are thus separated we are able to explain how we used each element to express satire.

2.1 Interaction between operational elements and interpreted components

Operational elements on their own do not provide sufficient information to players for them to reach a conclusion on the game's satiric intent; these elements need to interact with interpreted components such as theme to convey satiric intent. In other words, operational elements can reinforce the satirical elements, but are unable to communicate a message on their own (see also [41] on non-narrative satire). A clear example of this is when you compare the simple and well-known puzzle game *Tetris* [47] to the version of *Tetris* used in *Playing History 2: Slave Trade* [54]. The game mechanics are nearly identical, with only minor changes from the original *Tetris* in line with the slavery theme: the game world is a different shape in terms of space and size (to match the hull of a ship), and the abstract mechanic where lines disappear when completed has been removed, allowing the slaves to accumulate and fill the ship [47, 54]. In other aspects the games are mechanically very similar, even using the same shapes and the same interface that shows the next shape seen in figure 1; however, the visual elements and the themes completely change how the game is interpreted by the players. In the case of *Playing History 2: Slave Trade*, it was interpreted as racist and insensitive to such a degree that the 'slave tetris' segment of the game was removed by the publisher [63]. In this case the simple addition of the theme of slavery and the additional visualization of human beings as no more than shapes to be stacked, intertwined the mechanics of the game with ethical and moral implications that emotionally impacted the players and completely changed their interpretation of the game.

Playing History 2: Slave Trade is such a clear example, precisely because it replicates, nearly identically, the game mechanics of an existing game and allows for an analysis of the effect of changing only this limited variable. Treanor explores how interpretation of abstract mechanics changes depending on theme and aesthetics [65]. We can illustrate this with an example of an existing satirical game, Molleindustria's *Phone Story* [44]. Some of the minigames of *Phone Story* are 're-skinnings' [2] of portions of the 1988 Atari game *Bobo* [68]. The theme converts what could be considered as a silly and humorous interpretation of life as a prisoner into a criticism of consumeristic capitalism. The mechanics are unspecific and abstract until incorporated into the theme. For example, the conveyor belt level in figure 2, where players drag different types of waste to the workers depicted on the screen, has players execute what in the abstract is merely a simple sorting action. However, the game play is accompanied by background narration to provide context for what the player is doing such as: "[i]t will join tons of highly toxic electronic waste. They say they will recycle it, but it will probably be shipped abroad [...] There, the material will be salvaged using methods that are both harmful to human health and the environment" [44, Conveyor Belt Level]. This is accompanied by and interacts with the artwork, which also hints at the cultural

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[1]What Treanor et all understand with code we interpret as the unbreakable rules of the game established by the designers. If these rules are broken and/or code is re-written players are arguably playing a different game.

[2]By 're-skinning' we refer to simply changing the visual components of a game, not necessarily with consideration of their interaction with other components or with the rhetoric expressed by the mechanics [7, 65]. An examples of 're-skinning' would include *Mayor Munch* [26] which is a *Pac-Man* [34] clone where the candidate eats ballots while avoiding other candidates. No additional meaning can be derived from the interaction of these game elements[65, 2]. On the other hand, the 're-skinning' in the Molleindustria examples mentioned do impact the rhetoric and 're-skinning' also has a background in subversive and critical play [21, 33].

Figure 1: Comparison of the original *Tetris* (Image © The Tetris Company), a simple abstract game with 'Slave Tetris' game incorporated into *Playing History 2: Slave Trade*, which completely changes the interpretation of the game with mechanics that are strikingly similar (Image © Serious Games Interactive)

Figure 2: *Phone Story*'s Conveyor Belt Level on an abstract mechanic level is only sorting (Image © Molleindustria)

attire of the places it has been shipped to abroad. This combination brings the satirical aspects of the game to fruition through the interpretation elicited from the player. The players' participation in what initially appears to be a simple game of sorting becomes an important factor in the satire, "the final layer of the *mise-en-abyme*," when it is pointed out that precisely that action has made the player an accomplice in the very business practice they are criticising [20, 45].

Since the interpreted component is vital to the understanding of satire, we will draw on the concept of implied designer proposed by Van de Mosselaer and Gualeni [66] as an extension of the narratological concept of the implied author [8], to show how the satirical game elements of *Construction BOOM!* make use of selected 'satirical strategies' to contribute to players' understanding of the satirical intent of the designers.

3 IMPORTANCE OF IMPLIED DESIGNER

In general, research shows that the interpretation process of works involves making inferences about the intentions the creators of

these works had [9, 120]. The same holds true for satire where knowing the satiric intent of the author has been shown to be critical for the persuasive effect of a piece, or for a satirical piece to be identified as satire by a consumer at all [9, 27, 120]. A series of studies conducted by Gruner found that factual knowledge (i.e. knowledge of the context), political views and/or alliance, and verbal intelligence (as measured by the verbal SAT scores) were central factors in identifying works as satirical, in addition to influencing the persuasiveness of the satire [27]. As designers, it is impossible to account for the political views or SAT scores of the people that play the game. However, we may be able to use and influence the knowledge of the local context to a limited degree.

As Van de Mosselaer and Gualeni argue, when interacting with a game, players "cannot, and do not have to know the intentions of the actual author" [66, 2], and yet will still interpret them on the basis of the perceived intentions of the creators. While this suggests that the intentions of the actual designers are not necessarily relevant to the perception of the players, we, as the actual designers of *Construction BOOM!*, have the rare advantage that we are able to discuss and annotate our design choices in relation to our satiric intentions. Our design decisions were anchored in providing the player with enough information to grasp our satiric intent.

In order to elucidate the satirical strategies in the case study and ensure that our players had enough information to register the satire in the game, we drew upon the concept of the implied designer [66] to identify the aspects that the player would be able

to recognize as satirical, as well as the contextual clues and satiric strategies that would facilitate this inference.

In the case of satire in games, the game elements need to consistently provide coherent information to ensure that the implied designer is constructed by the players as intended by the actual designers. Designers can leverage operational components of the game as tools to promote the message of the game. Extraneous information provided by the designers may influence the players' interpretation of the mechanics and risks distorting or muddying the message of the implied designer. Janet Murray reads *Tetris* as the "perfect enactment of the overtasked lives of Americans" [45, 136] and Steven Poole reads *Pac-Man* [34] as a metaphor for rampant consumerism [49, 307], however these readings hold only as long as the interpreter omits all the other elements of the experience [65]. There are many elements of the experience of these games that do not support or fit into this reading coherently - for example in the case of *Pac-Man* there is no relation of analogy between the ghosts and consumerism [65]. The player will see this (and many other) instances where the analogy between *Pac-Man* and consumerism is not sustained. These breaks in the analogies will weaken any reading of the allegory.

It is not uncommon, however, for players to derive meaning from a work while being completely wrong about the intention of the authors [66], and as designers we were ultimately concerned with the fact that *Construction BOOM!* is intended by its authors to be interpreted as satire. Its designers therefore set out to minimize the possible ambiguities that could arise from inconsistent information in the operational components and/or interpreted elements, which could result in players interpreting the intentions of the designers differently. In order to prevent these pitfalls, we have taken the idea of the implied designer into account when inventing and developing the game, as suggested by Van de Mosselaer and Gualeni [66, 6]. Therefore, in the case study that follows we refer to how the satiric strategies used in *Construction BOOM!* serve to inform the player about the intentions of the implied designer.

4 EXPRESSING SATIRE IN *CONSTRUCTION BOOM!*

4.1 *Construction BOOM!*: The Game

Construction BOOM! is a two-player, turn-based, competitive tile-laying game featuring architectural aesthetics that are typical of the urban landscape in Malta.

In the following section we will expound upon various components of its design to illustrate the ways in which the actual designers' intentions are 'inscribed' into the game in its various aspects and components. We rely on the analysis of satire in our approach [13], and the use of what we refer to as satirical strategies (i.e. irony, wit, sarcasm, parody, exaggeration, caricature, etc), and we discuss how these strategies impact the player's perception of the designer's intention and their construction of the implied designer. The function of the satirical strategies in entertaining and critiquing and the interaction between those functions is particularly relevant. After all, as Declercq concludes in his definition of satire, "modern satirists are praised only if they succeed both to critique and entertain" [18, 326].

4.2 A Game to Entertain

Irony, wit, sarcasm, parody, etc., are expressive strategies that traditionally lend themselves well to critiquing through entertainment and are therefore often associated with satire. In *A Modest Proposal*, Johnathan Swift prompts both bitter laughter and thoughtfulness "[b]y playing the proposer's careful control against the almost inconceivable perversion of his scheme" [58, 139] using 'satiric strategies' including wit, irony, and parody. Swift's text is teeming throughout with verbal irony [58] and in *Construction BOOM!* the various components are likewise infused with a number of 'satiric strategies'.

As will be demonstrated in the elaboration that follows, the operational and interpreted components of the game have been designed to convey a satirical implied designer. However, before we proceed, the entertaining aspects of *Construction BOOM!* also need consideration. In this section we will briefly delineate the aspects of the game where traits associated with entertainment are likely to manifest and explore how these reinforce the critique.

We shall adhere to the definition of entertainment Caselli et al. have presented, building upon the definition of entertainment provided by Declercq, Zillman, and Stephen Bates and Anthony Ferri [13]. Research consensus has linked entertainment to positive characteristics such as pleasure, enjoyment, and delight [73]. We will draw on research stemming from cognitive science to evaluate how players may experience entertainment in practice, relating this to *Construction BOOM!*. We will not delve into the theoretical aspects of entertainment in depth; instead we will refer to a compilation of manifestations of entertainment drawn from a number of researchers used by Vorderer et al. [69]. Traits of entertainment include:

- Serenity, exhilaration, and laughter [74]
- Suspense [37]
- Sadness, melancholy, thoughtfulness, and even "tenderness" [46]
- Sensory delight and [17, 59]
- Sense of achievement, control, and self-efficacy [5, 25]

As Vorderer et al. note, these are simply the most common examples of how individual users may respond to entertainment, and they need not occur simultaneously nor in any particular order [69].

To entertain its players, *Construction BOOM!* relies on a sense of achievement, a manifestation typical in games [25]. This sense of achievement is reinforced by the success criteria imposed by the game, whereby players make decisions and optimize their strategy to prevail over their opponents. This is achieved through the game mechanics (game goal and game meter) and game dynamics. We will discuss how critique is expressed through these in the sections below. The game also intends to elicit bitter laughter from the players with mechanics that result in frequent collapses and visual caricatures of recognizable and ridiculous tableaux.

4.3 Entities

Satirical game art is likely as old as games and art themselves, with the standard playing card deck functioning as visual platform for social parody and commentary dating back to at least 16th century France [3]. For example, a playing card deck in London

circa 1721 had images that satirized the various 'get rich quick' scams that targeted gullible speculators, such as investments in water engines, radish oil, whale fisheries, and insurance schemes on horses, and ships [71]. Playing cards would often have their own regional variations with motifs that were particularly relevant or humorous to that specific audience [3, 71]. These variations are also indicative of the importance of the players' knowledge and context in interpreting the humor and satire in those card sets.

4.3.1 Structural Caricatures. The art assets, i.e. *entities*, of *Construction BOOM!* consist of 48 tiles, divided into the prevalent architectural styles in Malta: 'old', 'modern', and 'cheap'. The art of *Construction BOOM!* utilizes caricature to highlight the absurdity of the real estate over-development as per the conventions of satire. Traditionally caricature refers to illustrations of people and research has concerned itself with drilling down to the essential components of caricature [48, 53].[3] Caricature is often linked with exaggeration, but research shows that recognition of the subject on the basis of a few key properties is the principal consideration in caricature, making what is represented perhaps even more recognizable than a completely realistic and accurate depiction would be [48]. The art of the game therefore, caricatures the construction industry in Malta, not by exaggerating features, but rather by presenting a few key elements that are easily recognisable as an aspect of everyday reality in Malta. As can be seen in figures 3 and 4 the design of the playing cards is very much grounded in reality. Satire is intended as "a mode of challenging accepted notions by making them seem ridiculous" [11, 252] and the patchwork buildings that emerge in gameplay, contrasting with strict adherence of rules governing the game, should serve as a reminder that acceptance of this haphazard construction as ordinary is indeed counter-intuitive and to a certain degree, ridiculous. The exaggeration exists only in the fact that it ignores that there are buildings in Malta that are not a complete patchwork of styles and that there is more diversity in how these styles are evident in the wild.

Each tile has a satirical element to it, but we will highlight a few illustrative examples of caricatures in the art that offer the more unique insights and typical scenes of construction in Malta.

Overall the main elements of satire will be mostly evident in the 'cheap' and 'modern' materials. This is indicative of the modern nature of the real estate over-development problem, with an increase in incidents resulting from negligence on the part of those responsible starting around 2010 and reaching a climax in 2019, a year which at one point had over ten construction incidents within a span of six months [4, 10, 23, 62, 64, 67].

4.3.2 Motifs. Firstly there are a number of motifs, whose repetition would provide the player with an indication of satirical intent. There is the motif of the unfinished, as can be seen in figures 7, 8, 10, and 12. In Malta it is common to find apartment buildings fully completed, while the ground floor remains in a state of incomplete construction as can be seen in the tile shown in figure 12. Figure 4 even offers

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[3]We can extrapolate understandings of caricature from this research to other subjects and in colloquial communication the evidence of this common practice of applying caricature to abstract concepts is evident with Volume 23 of Lenin's collected works being titled "a caricature of marxism" and with Soraya Rizzardini González, a tango instructor who is part of the Tango Feminist Movement referring to tango as a "caricature of the patriarchy" [40].
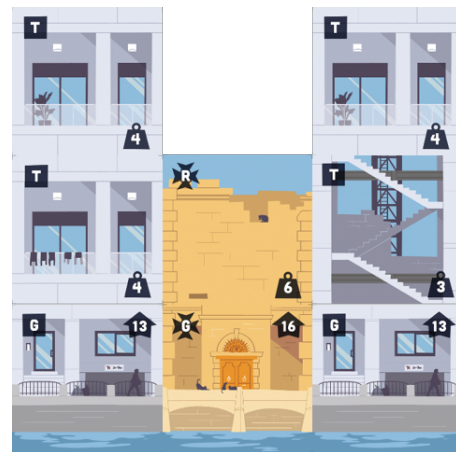

Figure 3: Comparison of reality with the reconstruction in tile form in the game: Tiles of the 'old' material surrounded by 'modern' (Images © Stefano Gualeni)

an example of a building where the ground floors have remained a closed-off construction site for years. The unfinished nature of the buildings is particularly evident in the 'modern' and 'cheap' materials. Tiles of the 'old' material also generate an 'unfinished' impression to them as can be seen in figure 11, but considering the history the player might be able to conclude that this is due to these properties crumbling and falling into disrepair rather than being the result of stalled works.

Another motif would be the presence of cinder blocks (evident in figures 8 and 9); and cranes (evident in figures 7, 8, and 12) as these constitute staples of every construction site that mars the

Figure 5: 'Modern' Ground Tile - Illustrating how minor accidents and constructions trucks blocking the roads are an everyday occurrence in Malta (Image © Stefano Gualeni)

Figure 6: 'Old' Tier Tile - Depicting the integration of the modern in the old without consideration for aesthetic (Image © Stefano Gualeni)
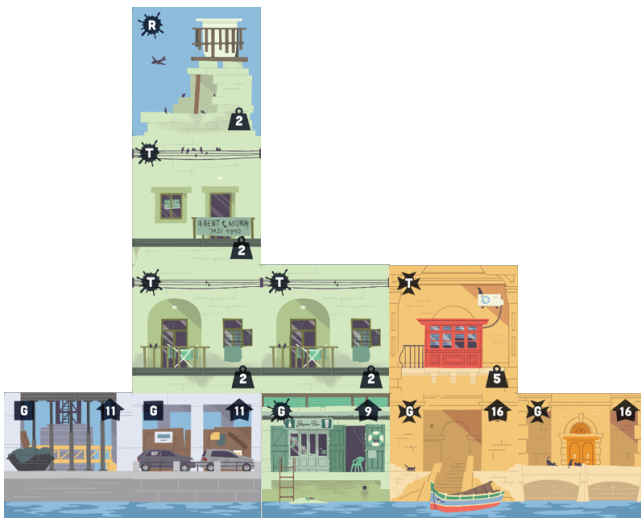

Figure 4: Comparison of reality with the reconstruction in tile form in the game: Haphazard placement of 'modern', 'old' and 'cheap' (Images © Stefano Gualeni)

landscape of Malta. Cinder blocks' pervasiveness results in their inclusion amongst the 'cheap' material as well, as can be seen in figure 9.

Another motif is the many objects that are presented as being 'for sale' or 'for rent'. The perceived exaggerated focus on personal gain and monetary value is emphasized in the game by the recurrence of these signs. The emphasis on personal gain and monetary value is also evident in the 'modern' material tiles as many of them are
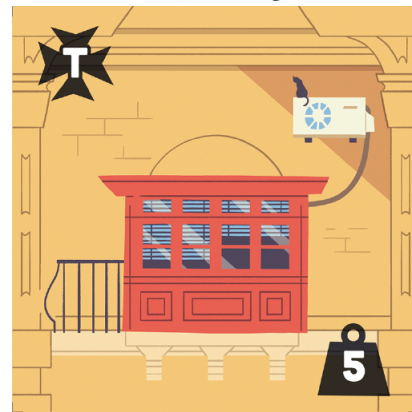
under continuous development. Adding this to the artwork serves to remind the player that the focus on profit is what the game designers are critiquing through the game.

4.3.3 Recognizable Tableaux. The art also caricatures the real estate over-development through recognizable tableaux. The graffiti in figure 10 for example is a quote from Malta Developers Association president Sandro Chetcuti speaking at a reception commemorating the association's 5th anniversary that reads: "Make hay while the sun shines" [42]. Here Chetcuti was referring to the fact that the sector was growing and that the developers should continue to ride the (poorly-regulated) wave to its full financial potential, as they have done since its growth started to rise in 2012 [12].

The cement truck seen in figure 5 teetering on the stairs after having barged through now-broken gates is less an exaggeration and more a curated, recognizable slice of reality. Due to the narrow streets and packed urban environment, these over-sized construction trucks often manoeuvre themselves forcefully and with little care for their surroundings, breaking anything that is in their path. Recently while walking to work, we witnessed a fully-loaded truck

Figure 7: 'Modern' Ground Tile - Showing quote by President of Malta Developers Association (Image © Stefano Gualeni)
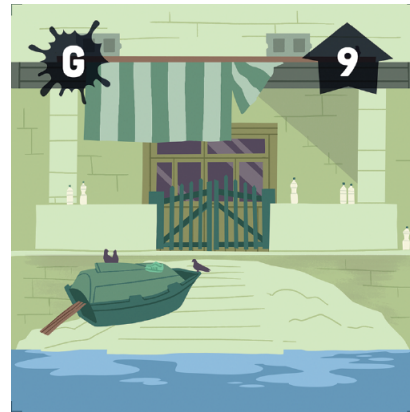

Figure 9: 'Cheap' Ground Tile - Demonstrating the lack of care invested in architectural features and the prevalence of cinder blocks (Image © Stefano Gualeni)

Figure 8: 'Modern' Roof Tile - Illustrating the 'unfinished' state of buildings and the prevalence of cinder blocks (Image © Stefano Gualeni)

Figure 10: 'Cheap' Roof Tile - Representing the precarious situation of construction that does not raise alarm in Malta (Image © Stefano Gualeni)

break through a manhole as it drove over the pavement and in March 2019 a cement truck unloaded its cargo onto a police vehicle in Paola [61]. These types of accidents, certainly fostered by negligence and poor regard for safety, is not rare in Malta.

4.4 Game Goal, Game Mechanics, and Game Dynamics

In accordance with the framework delineated earlier, we used **mechanics** and **goals** to form the basis of the interpreted component of **game dynamics**. As such they are intertwined in *Construction BOOM!* and we will address them jointly here. In the case of *Construction BOOM!!* the core game mechanics, the methods used by the players to repeatedly interact with the game state and achieve the systematically rewarded endgame state [55], are designed in such a way as to satirize the absurdity of the real-estate and construction industries in Malta. The designers of the game aim to make use of 'procedural rhetoric' and their satirical rhetoric is delivered through rule-based representations and interactions [7, 3].

As an example of procedural rhetoric Bogost describes *Tenure*, a digital game where success as a teacher is based on balancing

politics and not on the idealist version of optimizing and focusing on pedagogical motivations [7, 2]. The actions imposed on the player by the game mechanics make claims about how high school education works, in a similar way to that in which *Construction BOOM!* makes claims about how real-estate development is pursued in Malta. In *Construction BOOM!* the actions that the players need to take are also accompanied by caricatural visuals, emphasizing traits typical of Maltese buildings and construction practices.

As designers we decided to reward the players for pursuing similar actions to the ones we meant to critique (goal). Our intention was that of stimulating in them the realization of the principles driving the real-estate boom on the island, and how they are completely oriented in favor of profit, while disregarding aspects such as building regulations, safety, and habitability of buildings. We, therefore, designed the game mechanics and game dynamics to incentivize the following: build as much as possible, build without consideration for aesthetic, build without consideration for structural stability, and potentially gain profit from building collapses.

Figure 11: 'Old' Roof Tile - Exhibiting the neglected state of old buildings (Image © Stefano Gualeni)
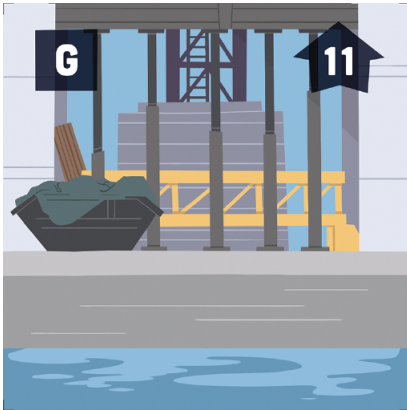

Figure 12: 'Modern' Ground Tile - Illustrating the skip on the sidewalk and the crane in the sky that is typical of the Maltese urban landscape (Image © Stefano Gualeni)

The goals of the game, in conjunction with the game rules, force the players into that profit-oriented and deeply antisocial behavior.

In *Construction BOOM!* the goal of the players is either to have a committed number of tiles of a particular type on the table at the end of the round or prevent the opponent from reaching their target number of tiles. In order to encourage the players to build as much as possible the game needed to tactically incentivize players to place as many tiles as possible. Players lay tiles each turn (game dynamic), but in order to promote more placements the following rules were added:

- Overburdening causes collapses which can free up valuable space (limited to six ground tiles) and can destroy tiles needed by the opponent (game mechanic)
- Playing multiple tiles can result in combinations (referred to as 'combos' in the game) which also allow the player to place a tile from the opponent's hand (game mechanic)

Profit is the main consideration when building in *Construction BOOM!*. The stability of buildings is only valuable to players insofar as this may result in their financial/scoring advantage or disadvantage. Aesthetic or architectonic aspects are completely ignored in

the scoring hence pushing the player into instrumental rationality and the extraction of profit, forming an interactive satirical representation of the Maltese construction industry where financial considerations outweigh both safety and aesthetics. To further support the replication of the haphazard nature of construction (see figures 3 and 4), the location of the tile style (i.e. old, modern, or cheap) does not impact the winning condition or score.

4.5 Game Meter

In *Construction BOOM!* the players' in-game performance (*meter*) is measured in monetary terms. Players are rewarded for completing their contracts and punished for failing to complete them. Completing a contract (i.e. having x amount of the declared material in play at the end of the round) is rewarded with 30,000 EUR. Failing to complete a contract results in a penalty based on the number of tiles they have failed to deliver on in the contract. The first important satirical hint is the fact that the designers have chosen to include a currency in the reward, further reinforced by the paratextual content of the game logo which develops over a stylized version of the "€" denoting Euro currency. Although a simple point system would have sufficed to rank the players for the win condition, the designers consciously chose to express the meter in currency as another piece of information the players could use to infer the satiric intent of the implied designer.

4.6 Perspective

When referring to perspective, we are specifically referring to the role the player takes on in the game. Perspective is an operational component which gains significance when themed. The players take the perspective of the entities they control: the link between a controlled entity – an (implied or explicit) avatar, a group of entities, a pawn, a playing piece, a miniature, an abstract strategy, and so on) – and the player can rhetorically express statements thanks to perspective. While the players' actual perspective is also relevant, in our view this is the result of their extant knowledge (e.g. of the local context) as well the influence of the artwork as discussed in section 4.3, and information from paraludic sources discussed in section 4.7. Nevertheless, the perspective of the role the player takes on in the game forms part of the satirical aspect in *Construction BOOM!*, in a manner reminiscent of electoral guerrilla theater. Where in electoral guerrilla theater performers satirize the electoral ritual which they feel denies them the option of real participation [6], in playing *Construction BOOM!*, the designers give the player control over the construction which they perceive as being out of their control and which nonetheless has a significant impact on their quality of life. As an interactive medium, games are able to draw on some of the same techniques as interactive theater, and as such *Construction BOOM!* inverts the hierarchy and roles putting the victim (a visitor to Malta or the average citizen who is not involved in the construction business) in control in a manner of satire reminiscent of Augusto Boal's *Theatre of the Oppressed* [6, 14].

4.7 Themes - Satirical Paraludic Components in *Construction BOOM!*

We have defined theme as visual representations or textual explanations that stimulate and shape the inference of a satirical game designer and the consequent satirical interpretation of the game mechanics [13]. What we have discussed thus far can be considered the ludic hints to satirical aspects of the game that players use to form their image of a satirical implied designer. When we refer to the games' paraludic components, we draw on Genette's concept of paratext [24] to refer to all the media linked to the game including the packaging and presentation, the instruction videos, the game websites, and the rule book [35, 56, 33,]. These all serve to help shape the implied designer and the interpretation of the game. While it is true that players may not always have access to paraludic materials such as the instruction video and website, we operate from the assumption that all players have access to the packaging and rule book. An instruction video and website such as used by Molleindustria's *Phone Story* [44] and *The McDonald Videogame* [43] are more effective in the case of digital games as players will need to access and download the game from the website. The effect of using these paraludic tools is less in the case of *Construction BOOM!* as many players would not be exposed to them, due to the fact that it is a boardgame and there is no requirement to access the website and the tutorial online.

The paraludic tools do, however, have the potential to provide further elucidation of the satiric intent of the designers. The instruction video uses the satiric device of exaggeration, with an over-the-top tone cluing the players in to the intentions of the designers. The website is soberer and more serious in tone, but clearly delineates the intent of designers in a section describing the background of the game where its intent to satirize is made explicit.

As mentioned earlier, the packaging itself provides an indication of satirical intent, as the logo displays the title over a stylized symbol of the Euro currency, referring to the overemphasis on quick profit the designers want to convey through *Construction BOOM!*. The packaging and logo prime the player to expect certain qualities from the product [51], and even before opening the box and reading the rules the players will already be processing information that hints at a satiric implied designer.

The perception of satiric intent is so critical to satire, that Knight notes that satire "may seek to verify the audience's participation by a textual hypothesis about its nature" [36, 34]. The *Construction BOOM!* rule book, an essential component of any boardgame, presents an excellent opportunity to include this textual reference to its satiric nature, primarily through the artwork (in the form of cartoon diagrams), and references that allow the players to draw conclusions about the context.

There are explicit indications of satire in the textual explanation of the rules. For example, the rule book playfully acknowledges the ridiculousness of the rules which are being enforced to players, as it states: "Many of the construction rules in this game are rather shady, but here is one that makes common sense!" The humorous illustration accompanying this comment further hints that the designers are aware of the ridiculousness, hence contributing to the perspective of the satirical intent of the implied designer.

While the game art assets and paraludic content clearly set the game in Malta, and refer to the real estate over-development and the free rein given to the contractors, this is by no means only a local problem. In Puerto Rico the Department of Education recently admitted that ninety-five percent of the schools were not built according to regulations [2], in Nigeria 54 cases of collapsed buildings were recorded in 2017 [1], even the United Kingdom half of the buyers of new homes have major problems [38]. Therefore, the satirical aspects can be translated to a number of different local contexts and still be applicable and perceived as satire. The information available in the rule book is particularly useful for situating the game in the context of Malta, and enabling the players to make the parallels with their own local contexts.

4.8 Interpreted Component: Aesthetics

The interpreted component of 'aesthetics' refers to the judgment of the players as informed by the theme and systematically applied to the other game components such as game mechanics, entities, meters, goals, perspectives, and game dynamics. 'Aesthetics' refers to "how it feels to play" the game [65, 5]. This is a notion heavily impacted by a player's own culture and background and it could be the case that people from different backgrounds might describe the 'aesthetics' of the game differently [65]. 'Aesthetics' in this case is interpreted from the same elements as the message of the game, which we have argued emerges from the interrelationship of the operational elements and interpreted components in section 2.1. However, it is not necessarily the same message. It will inform the message in a similar way as the components discussed will, as players will attribute the feeling to the intent of the designer, but it is not in itself the message. For game designers the use of this component is difficult to control, as it is heavily informed by the players' culture and background - for example a game where you need to avoid snakes may be labeled as "scary" by some while not having the same connotations in other cultures. Nevertheless, as discussed above the design decisions relating to the various components of the game and their interaction were made with the intent to indicate a satirical implied designer to the players, resulting in an 'aesthetic' of the game (i.e. feel of the game) that likely would be identified as 'satirical', 'mocking', 'ruthless', 'absurd', 'ridiculous', or another similar feeling often associated with the 'satiric strategies' employed.

5 CONCLUSION AND FURTHER AVENUES OF RESEARCH

Satire is context-dependent and the biting intent of the satirist may not be evident [27]. The notion of the implied designer proposed by Van de Mosselaer and Gualeni has proven a useful design perspective, assisting in maintaining conceptual clarity and ensuring that as designers we constantly asked the question of how a player might interpret a certain component or element of the game. It provides designers with a tool to continuously re-assess the intentions that could be attributed to their decisions and prevent the diffusion of the operational elements and interpreted components that might result in misinterpretation. While this is beneficial for any game designer, it becomes an even more pressing concern, ,

in satire where the identification of satire is essentially a defining feature [27, 36].

The analysis of the 'satiric strategies' using the implied designer further highlighted how operational elements and interpreted components are fused together through the interpretation of players, as is evident for the satiric intent in *Construction BOOM!*, but also in cases where satiric intent is not necessarily clear such as *Playing History 2: Slave Trade*. In *Playing History 2: Slave Trade* the designers did not explicitly mention any intention of critique, referring only to their intention to show that "[p]eople treated human beings as pieces that just had to fitting [sic] into the cargo" [72], but they do believe that "15 secs[sic] of slave tetris" has a good chance of persuading players to change their perspective on the slave trade [72]. Furthermore, the intent of the developers to entertain and the game's entertaining nature, specifically as regards the slave tetris section, is also called into question as the studio itself has referred to it as "insensitive and gruesome" [72]. The messages of the game and its developers may confuse players as to the intentions of the designers and thereby muddle its interpretation as possible satire.

We also demonstrated that satiric strategies can be used by game designers outside the game itself and an example of this is when Bethesda Softworks, the publisher of *Wolfenstein II*, made use of their Twitter platform to tweet messages like, "Make America Nazi-free again" [52], framing the game in a more satiric light. However, this same example also demonstrates that incoherence between the various operational elements and interpreted components (perhaps exacerbated by multiple levels of authorship evident in videogames [30]) can in practice result in more ambiguous readings of satire, with the developers being cautious about committing to any kind of message behind the game [52]. To prevent this ambiguity in *Construction BOOM!* the paraludic elements of the game are coherent and consistent with the message of the operational elements and the interpreted components.

'Skinning' is a common method for attempting satire and in the approach taken by *Construction BOOM!* mechanics interact coherently with the other components of the game to reinforce the message of the satire. We believe that without integration in the mechanics of the game, there is a risk of satire falling flat, as suggested by observations made by Ferri and Treanor et al. [20, 65]. This fusion of the operational elements (a prominent feature in games) and interpreted components, (present in most literary works) would appear to be unique to games, and game designers have started harnessing this novel aspect in games such as Rod Humble's *The Marriage* [32] and applied with satiric intent in Molleindustria's *Phone Story* [44] and *The McDonald's Videogame* [44] [20, 65].

The way a creator chooses to express the critique and entertainment, their 'satiric strategies', can vary greatly and we have addressed only our specific approach. However, our analysis of *Construction BOOM!* has demonstrated that the game relies on the fundamental combination of and interaction between (perceived) critique and entertaining purpose, thereby reinforcing the findings of Caselli et al. on the theory of satire in games [13] and the definition of satire proposed by Declercq [18].

We believe there is scope to test the theory presented in this document through practice-based research and further examination of the cues players use to determine the intents of the designer. This would refine earlier quantitative research conducted by Gruner and

Powell on topic salience [50] and the ability of satire to persuade [27]. To apply a quote from Gruner to the interactive media of games, it would appear that "the field of satire as persuasion has a great deal of room for anyone wishing to move in and take part" [27, 9]. While Gruner and Powell made progress in this area and highlighted the factors that influence the understanding of satire in traditional 'passive' media (such as text and images) we believe there is scope to examine how these impact an interactive medium such as boardgames and digital games and the construction of the implied designer specifically (i.e. to find the degree of correlation between the players' perception of the implied designer and their perception of the work as satire or not).

In addition, the possibility that certain features of the game such as engagement and immersion may interfere with the reading of the designers' intent deserves further exploration as a unique phenomenon having relevance for designers utilising games as a mode of persuasion, such as through satire. Playwright Berthold Brecht argued that the immersion of an audience in the play actually does not give them a chance to disengage from the work and think critically about it [22, 170]. Similarly, we believe that a high degree of immersion in the gameplay would also interfere with the players' ability to identify the game as satire at all.[4] Playtesting seemed to suggest that transludic knowledge, "knowledge relate[d] to multiple other games that an individual may have played in the past" [31, 1], affected the satirical intent and it may be valuable to explore whether familiarity with boardgame mechanics facilitates or hinders the identification of satire in the procedural rhetoric itself.

In this case study we have identified the various 'satiric strategies' we used such as caricature, inversion of perspectives, and framing the local context. Additionally, we have demonstrated that in interaction with the interpreted components such as theme and game dynamics, it is possible for objective components to reinforce a rhetorical message, such as satire, through procedurality.

By implementing the theory on satire into the format that can be applied to games as set up by Caselli et al. [13], we have shown how we expect the components to impact the interpretation of the implied designer, demonstrating theoretically how their inclusion affects the game's reading as a satire. As a result, it means that other game designers may benefit from this approach to examine whether their game will read as satire and to what degree it will remain ambiguous. As discussed earlier in the conclusion, the inextricable entanglement of the operational elements and the interpreted components has the potential to lead to a certain ambiguity, as was the case in *Playing History 2: Slave Trade*'s 'slave tetris' [72], *Wolfenstein II*'s extraludic material [52], and even *Far Cry 5*'s "[i]llusions [sic] to false messiahs and [...] mission "Make Hope Great Again" [which] to some degree satire Trump's America" [70]. With the framework provided here, game designers have a tool to ensure that their intentions are accurately reflected in the game, even if their intentions are to cultivate a certain level of ambiguity.

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[4]Could be further supported by the theory of positive psychology related to flow. When players experience flow one of the defining features is a "[l]oss of reflective self-consciousness (i.e., loss of awareness of oneself as a social actor)" [16, 240] which is the very process which is required to process satire.

ACKNOWLEDGMENTS

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