

## **MAKE LEMONADE: THE PLEASANTLY UNPLEASANT AESTHETICS OF PLAYING ›PORTAL‹**

This paper takes its title and an important cue from the folksy premise of the axiom, »When life gives you lemons, make lemonade«. The paradoxical position that something unpleasant can be turned into something pleasant offers not only an entry point for an engagement with the *PORTAL* series, but also an opportunity to consider directly the applicability of Friedrich Schiller's model of three inherent drives to the study of video games. Thus, our paper will situate Schiller's aesthetic principles within existing game studies scholarship, will examine how these apply to the *PORTAL* series' implementation of rules, play and affirmation, and will consider the ramifications of the commentary which inheres in the process. Most importantly, the three drives – normative, sensuous, and play – map directly onto the rules and the rewards of the games. As well, this pattern appears in the form and in the content of the games so that the ways in which rules, affirmation and their linkage through play produce enjoyment also make the *PORTAL* series obvious examples of good art. In the case of affirmation, the fact that these rewards are through negative affirmation makes no difference. *GLaDOS* and Wheatley's taunts and barbs, and the journey on which they lead us, engages both the cognitive and affective responses of the players. The pleasure of this game is located in both of these responses; we are driven to think about the game, and the game makes us feel (bad). As we will discuss, even something that makes you feel bad gives pleasure, as with horror movies or thrill rides. Therefore, considering the *PORTAL* series as constituting games about games also entails a look at the concurrent commentary on players, particularly through the cognitive and affective responses to the interplay of rules, play and affirmation.

Indeed, the *PORTAL* series engages both the social as well as the compositional hallmarks of what constitutes good art; therefore, whether or not a game can be art is no longer a question worth asking. However, it is the paradoxical nature of the affirmation the game bestows and its reception which speak to the relationship between players and games since the breaking of the so-called fourth wall instantiates and reinscribes the necessary conditions for (a) play. The simultaneous interaction with the player as audience and as participant

are essential since each episode, each installment, each production is different in and through the presence of that audience. This is both despite and because of the seemingly negative cognitive and affective responses the games elicit. As Jesper Juul stresses in *The Art of Failure* (2013), the paradox

»is not simply that games or tragedies contain something unpleasant in them, but that we appear to want this unpleasantness to be there, even if we also seem to dislike it [...] a safe space in which failure is okay, neither painful nor the least unpleasant« (ibid., 4).

Moreover, in making such a statement, Juul falls back on the knowledge that this very line of discussion »has been applied to every art form« (ibid., 22). In particular, he stresses the similarity of arguments offered by critics of the effects of art, as opposed to the art itself, when elucidating and enumerating the counter-intuitive pleasures of failure, anxiety, suspense, etc.

In this regard, it is a critical commonplace for game and play scholars to qualify statements about games' status as art by citing (one of) Friedrich Schiller's axiomatic declarations in the *Letters on the Aesthetic Education of Man* (2006). For example, no less a theorist than Roger Caillois cites Schiller's (quint)essential and oft-cited statement, »For to speak out once for all, man only plays when in the full meaning of the word he is a man, and he is only completely a man when he plays« (ibid., 163).<sup>41</sup> Unfortunately, this is where most scholars – including more than half of those cited in this paper – stop: with an echo of Caillois's citation. Yet, it is the ineluctable combination of rules, play and affirmation that makes possible the paradoxical relationship with unpleasant emotions upon which the success or failure of the game rests. Said another way, Schiller's enumeration of three separate ›drives‹ – normative, sensuous, and play – applies not only to *PORTAL*, but as revealed in and through playing *PORTAL*, to all video games and their three bases, namely rules, rewards, and play. It is the last of these – play – that reconciles the incumbent and contingent regulation of sensation entailed by the other, competing drives. This becomes particularly salient when considering the games' hook, based on the idea that the game is a secret add-on and the source of multiple and simultaneous in-jokes, which also serves as its overarching narrative. This textual play truly testifies to the veracity of Espen Aarseth's (2004) assertion that the »gameworld is its own reward« (ibid., 51). While Aarseth rightly places games alongside other art forms, his reluctance to provide analogies or to acknowledge intertexts beggars the form since it requires no such insulation from aesthetic inquiry. Indeed, as exemplified by *PORTAL* and its successors, the form more than holds its own. With its cohort of tasks, teases and taunts, the *PORTAL* series invites such comparisons. Moreover, the games occasion and encourage manipulations of the game

world, from the celebratory gestures to highest bounce videos, and additions to it, from the cake meme to the title of this paper. The array of player-developed routines stand as the strongest statements regarding the games' secondary level of meta-textualization. This becomes most apparent through the cognitive and affective responses to the puzzles, to the dialogue, and especially to the jokes, taunts and barbs, both within and without the game. To extend Juul's position, the game world offers innumerable unpleasant and unexpected rewards. Simply put, Aarseth's position has more in common with Schiller's than initially seem plausible. Conversely, the interplay of Schiller's drives has more to offer than mere soundbites for the requisite background literature of properly trained ludologists. As will be explained further, games no longer need to be the subject of debates regarding their status as works of art. The fact that aesthetically successful – i.e., ›good‹ – art can be identified precludes and/or obviates the question entirely. In other words, PORTAL's blend of aesthetic elements, including and especially play, serves a basis for making such claims and evaluations. Through its admixture of disconcerting pleasures, the PORTAL series makes an important comment on the possibilities of the enjoyment of texts and of play, while extending the range of such possibilities. Such a development, then, reverses the situation so that more traditional forms of art must now measure themselves against games.

## **Now you're thinking with portals: Schiller's drives and game studies**

Intriguingly, the most direct call for a consideration of the affinities between Schiller's more extended positions in the letters and the study of the video games comes not from Game Studies, or in particular from the ludologist camp, but rather from the German Studies scholar, Gail Hart, in a pair of articles on aesthetics. In a footnote, she first observes,

»One is struck by the resemblance of Schiller's aesthetic mechanics and the planning and construction of video game environments. Basically, the designers place the consumer/recipient within the world of the game's backstory and allow the person to move through it, making certain choices, but ultimately following an immutable narrative trajectory« (Hart 2011, 484).

In clarifying her position, Hart explains that this process occurs across the spectrum of games, ranging from MARIO KARTS to GEARS OF WAR. It is surprising that the connection has not been more thoroughly investigated until one recognizes that the drives, one reflecting the ›rational nature‹ and one reflect-

ing the ›sensuous instinct‹, not only map onto cognitive and affective responses but also onto ludology and narratology, respectively (Schiller, XII).<sup>42</sup> In other words, they map onto form and content, structure and style. While play reconciles them, the split reveals more about the limits of the particular investments of the ludology and narratology camps than it does about games. Without these encumbrances, then, Hart easily recognizes that the current generation of video games allows for a more complete incorporation of Schiller's aesthetic ideal, in which the play – or in this case, the game – induces the player to make moves and decisions which the play or game has already anticipated. The resultant cognitive and affective response is one that presumes choice and autonomy, even in the face of contradictory evidence. The joy of discovery cannot occur without the discomfort of not knowing. Here, the *PORTAL* games not only serve as an exemplar, they provide a commentary for how and why this both occurs and works successfully. A terrific instance of the game commenting on the relationship between control and play occurs just before the finale of *PORTAL 2*, when Wheatley admits, »Oh! Wow! Good! I did not think that was going to work« after the mashers crush the player/avatar. The importance lies in the player having been led there by a reversal of Wheatley's bad advice.

All of this stands in contrast to a much earlier invocation of Schiller, and not just to cite the axiomatic refrain from the fifteenth letter. Writing roughly twenty-five years or three full console generations ago, feminist psychoanalyst Marsha Kinder (1992) offers, »I would argue that one of the reasons why these video games are so compelling is that they simulate the phallogentric humanist synthesis of assimilation and accommodation that Schiller ascribed to the ›play-drive‹« (ibid., 44). Kinder then quickly cites the ubiquitous passage as evidence of the onanistic bent of Schiller's formulation. In doing so, she argues that video games exist in and through their Oedipalization. This perspective reflects a very deterministic, top-down approach which assumes the singular, prescribed readings of texts as produced will be the extent of those available when consumed. As much as the immortality of authorial intent proceeds from the algorithms that define games, Kinder talks little about play or the cognitive and affective responses to it. Instead, she imposes an almost formulaic determinism onto games. Still, hers remains one of the few to cite more than a line from Schiller and to recognize the play drive at work, as it were. But, what of the other two? Although she considers phallogentric, Oedipal and even oral fixation fulfillment, Kinder does not consider the love or the work drives, nor does she consider the need for the affirmation of the feminine within the Oedipal and the oral stages. Indeed, work maps most clearly onto the law-of-the-father fulfillment by the son, given its utilitarian premise. In fact, *PORTAL* undercuts-

these through the mocking of GLaDOS. The very name, a play on ›glad‹ and ›operating systems‹, serves as a constant reminder of the omnipresent rules that dictate not only events, but the order in which they occur. Even so, it is worth pointing out that an analysis of GLaDOS in terms of that Anne-Marie Schleiner's (2001) essay on *TOMB RAIDER* offers a host of potential subject positions for consideration, including dominatrix, femme fatale, role model, drag queen, female Frankenstein and vehicle for the queer female gaze (ibid., 224). None of these exist within the algorithm but only exist as a result of the intersection of the games' algorithm with the player. This is important because that intersection occurs where work meets love, where rules meet affirmation, where puzzles meet reward.

In Kinder's defence, it should be pointed out that she is writing about console games involving primarily side-scrolling action. The first FPS as we know it had not appeared, let alone a hybrid FPS/puzzle game like *PORTAL*.<sup>43</sup> So, the potential for games to provide multiple and simultaneous points-of-view and even self-commentary had not yet been (fore)seen. Even so, this perspective seems to have galvanized and to some extent reified the limits of game criticism to relatively deterministic borders. For example, while Hart does indeed attempt to take up her own insight regarding the applicability of Schiller's reasoning to the study of video games, it is more revealing in where it stops than in where it leads the conversation. Taking a cue from Ian Bogost's ›procedural rhetoric‹ (2007), which he defines as ›the art of persuasion through rule-based representations and interactions‹, Hart elaborates that,

» [...] The involvement in procedure, one that the player has freely learned and accepted, allows for the full acceptance of the game's conditions and, in some cases, the game's political message, at the very least on the level of play. This form of play is far removed from Schillerian *Spieltrieb* because it is not freely suspended between rational necessity and natural desire, and I am not arguing for *Spieltrieb* in the experience of video games, which do not fulfill aesthetic criteria« (Hart 2011, 18f).

Indeed, Hart concurs with Bogost in following Salen and Zimmerman's definition of play as ›the free space of movement within a more rigid structure‹ (qtd. in Bogost 2007, 42). This definition relies on the basic assumption that play is founded on fixed, rigid boundaries which facilitate the freedom that appears within that frame. That said, Hart is too quick to dismiss the play drive because she – like the ludologists and Game Studies scholars cited here – does not go on to consider the other two components of Schiller's triad.<sup>44</sup> This is significant because the play drive was never meant to stand alone, nor was it intended as a kind of immanent plane. Instead, it reconciles the opposition of rational ne-

cessity and natural desire, an opposition produced in and through culture; that is, in and through a material existence.

Indeed, the play drive could be described as a cognitive and affective response to the paradoxical attraction-repulsion of the other two drives. Where one most recognizes the potential for these categories to inform game studies occurs when one considers the full range of activities players must and/or may perform, alone or in concert, when playing a *PORTAL* game. These include (but are not limited to) cooperation, exuberant gestures (high-fives and dancing), free-play to test and explore, highest bounce games, setting up infinite loops, intentional and unintentional cracks in the gameworld and jokes, knowing the jokes from the previous game or from friends, and breaking the fourth wall. In this last regard, the breaking of the so-called fourth wall, in which the game (and its narrator) speak directly to the player, as well as to the avatar suggests what we have called elsewhere a »transludic space«, the otherwise interstitial place that exists between the player(s) and the game (Ouellette/Ouellette 2013). The significance of the transludic lies in recognizing the interactions that occur in the game, outside the game and, especially via sharing or cooperation, in the space between the two.<sup>45</sup> In addition, the games feature »challenges« that highlight the replay aspect of the series. These require players to set fastest times, use the fewest number of portals, and other combinations of game elements. For us, this space becomes important because it reminds us that play also involves the always already of compromise. This is true whether the compromise involves two players in a cooperative mode or one player whose talents or skills favour solving puzzles instead of relying on reflexes *or vice versa*. In the cooperative mode, especially, any mutual compromise proceeds from the affirmation required to accede to another's perspective but this occurs in conjunction with the work and the implementation of it. The setting, in test chambers, speaks volumes to this relationship. In other words, the transludic space immediately problematizes any sort of deterministic view of play while highlighting the potential for the sort of metatextual instantiation of games like the *PORTAL* series.

Perhaps the closest any scholars have come to insinuating the work of play into the discussion, at least at a metatextual level, appears in Ruggill, et al's consideration of what they call, »the gamework« (2004, 297). In coining this neologism, Ruggill, et al offer scholars »a way to theorize computer games as cultural artifacts, artifacts that motivate work as much as – and sometimes even more than – play« (ibid., 299). Indeed, they recognize that as much as games might entail play, this play is highly contingent:

»Players must not only decode the ›frameworks of knowledge‹ created by developers [...] but in fact encode these frameworks (or parts of them at least), shaping game worlds and their meanings according to strategy, taste, style of play [...] Gamers actively help create the narrative, thematic, and ideological structures that determine the artifactual experience. In so doing, gamers also reproduce or consent to ideologies embedded within games themselves. This, too, is a kind of work« (ibid., 301).

**This stands in some contrast to Jane McGonigal's assertion regarding the new and unique quality of games in terms of placing players in positions of beginning**

»[...] each game by tackling the obstacle of not knowing what to do and not knowing how to play. This kind of ambiguous play is markedly different from historical, predigital games. [...] In fact, it's a truism in the game industry that a well-designed game should be playable immediately, with no instruction whatsoever« (McGonigal 2011, 26).

This *might* hold if the player has never played a game before or seen or read any kind of production without having any kind of preview, box art, cover art, jacket quotes, held a controller or any other sort of knowledge of the fact that the game is a game. This is not so far removed from finding oneself in a theatre facing an unknown play, with the lights having gone down but resting safe in the knowledge that a play is about to begin – with all of the assumptions both cultural and generic that such a moment entails. Amazingly, McGonigal cites *PORTAL* as being emblematic of her ›insight‹ without recognizing that *PORTAL*, like an awful lot of games and stage plays, is its own instruction set! Moreover, *PORTAL* is its own commentary, but again, this is not that far removed from the process of discovery that is the kernel of *any* quest (narrative). What is different is the level to which there is an acknowledgment of the work, of the affirmation and of the play that binds the two.¶6 As Hart observes with respect to the insights Schiller's analysis offers for games,

»[...] the player is guided, but while holding the controller in his or her hand, s/he nonetheless has the feeling of acting freely, though this action is entirely reaction to the environment s/he has entered and the design team has prescribed these reactions rather precisely. One has to conclude that we are playing their game and [this] only makes the player susceptible to the impression that s/he is freely choosing the course of the game« (Hart 2011, 252).

In fact, Hart stresses that the »conflation of freedom and determination« is at the heart of the enjoyment paradox upon which games rest (ibid., 252). In fact, this is the very structure *PORTAL* reveals in course. Thus, McGonigal's assertion that the »feedback systems are what we learn first«, is a gross understatement,

one that is on par with her overstatement of the »newness« of digital games (McGonigal 2011, 27). As *PORTAL* deliberately reveals, games are inherently and entirely feedback systems. Yet this is not so different from the conditions and contingencies of earthly existence. The difference, as Schiller points out in the axiomatic expression, is that the sensation is most pronounced, most heightened and most tenuous when playing.

However, this refers to a very specific and deliberate context – art – in which the play drive achieves a transsubstantive presence as both state and process. This is the key difference of games and the one *PORTAL* highlights through the ongoing series of puzzles and behind-the-scenes looks at the ministrations and the manipulations involved in the simultaneity of being and becoming. Thus, when *PORTAL* breaks the fourth wall, it becomes another game that, as we have said elsewhere, »agrees by disagreeing«, with Aarseth's position on the relationship between games and their stories (Ouellette 2011). According to Aarseth, video games are

»constrained by the story in unrealistic ways. What makes such games playable at all, and indeed attractive, is the sequence of shifting, exotic, often fascinating settings (levels), where you explore the topography and master the virtual environment. The gameworld is its own reward« (Aarseth 2004, 51). ◀7

Here, it seems that Aarseth overstates the value of one part of the triad of work, affirmation and play, especially since the last is the valance point that binds the other two. As much as we agree that *PORTAL*'s gameworld is its own reward, the behind-the-scenes thematics become central to virtually every aspect of the game as it unfolds while providing myriad entry points for the kinds of intertextual and metatextual analyses Aarseth eschews, principally its conversations with other (kinds of) production *and itself*. Here, it is worth recalling Gonzalo Frasca's (2003) proposition that games operate on four

»[...] different ideological levels in simulations that can be manipulated in order to convey ideology [sic!]. The first level is the one simulation shares with narrative and deals with representation and events. This includes the characteristics of objects and characters, backgrounds, setting and cut scenes« (ibid., 232).

In other words, the game can exist independently of these elements in Aarseth's formulation. So, Frasca concentrates on the actual play within a game when developing the final three categories. Here, it is well worth mentioning that his »manipulation rules« and the »goal rules« distinguish between what a player is able to do and what a player must do in the course of the game« and map nicely onto the formal aspects of work and joy of rewards or affirmation (Fras-



ca 2003, 232). However, Frasca suggests that there is a fourth level, that of »meta-rules«, which refers to the ways in which rules can be changed (ibid.). As much as Frasca's levels offer insight into the potential effects of the play and vice-versa, the last category seems questionable given the fact that the game is constrained by the algorithms that govern its scoring, physics, surveillance, etc. Moreover, Frasca's point regarding the status of meta-rules anything recalls the question of reinscription when metatextual – and metarules are nothing if not metatexts – productions are considered. Whether the metatext is *WIDE SARGASSO SEA* or a benevolent game of rescue using *GRAND THEFT AUTO*'s engine, the kernel remains *Jane Eyre* and a lawless Macchiavellian playground, respectively. In other words, the primary source can and will be reinscribed. That text is writ. In fact, this is anticipated within *PORTAL* when Cave Johnson shifts his opinion regarding lemonade. Instead of suggesting the axiom, »make lemonade«, Johnson eventually admits to thinking, »Make life take the lemons back«. In other words, you cannot change the rules. These are the items with which you can play, but you can play with them as you please. As we will show, this is not just a semantic difference.

This occurs in part because the *PORTAL* games, perhaps more than any other games we have played (together), require us to distinguish very carefully between what players are able to do and what players are compelled to do in the game. And while this consideration must include an analysis of the various modes and levels through which the play unfolds, it also maps onto Bernard Perron's (2003) distinction between gaming and playing and his corollary, gameplaying. The player, in Perron's terms, »knows that the rules of a given game (or even of play, as we'll see) will limit his moves. But he accepts those by playing« (ibid., 241). Where this becomes useful occurs in locating the perceived subversion and rule breaking within the *PORTAL* world, but these are still known and manipulated by the game itself. Certainly, GLaDOS makes it seem so through her admonitions when players share celebratory high-fives or dances. As well, Wheatley, in either incarnation, encourages breaking the rules of the Aperture labs. Thus, Perron's formulation offers a video game-specific reworking of Schiller's formal, sensuous, and play drives. Even so, the process is more complicated by several aspects of the game, including the test chambers, the restrictions on movement within the test chambers, and the obvious (and not-so-obvious) behind-the-scenes excursions and shortcuts. In this last regard, the shortcuts are not only part of the game, but they were obviously planned as part of the game and Wheatley (especially) tells us this much. Since *PORTAL* (in all of its incarnations) not only encourages rule breaking but seemingly offers the potential to divert from and even ignore the narrative, it fol-

lows Perron's distinction between ›player‹ and ›gamer‹ on the basis that for gamers it is not »a question of playing the game but of playing freely *with* the game« (ibid., 252). In other words, while it would appear that the game's structure facilitates negotiations with, departures from, and idiosyncratic variations of the preferred reading of the text, the reality is that each of these is not only accommodated but comes down to a question of style; that is, variation occurs in and through an aesthetic dimension, not a ludic one. To paraphrase Schiller at the end of the twentieth letter, this is all the play that *PORTAL* allows and all *PORTAL* allows is a playful aesthetic. Rather than subscribing to the subversive surface, the player's ›free will‹ remains a determining factor through the order of (some) operations, speed, style, and (for *PORTAL 2*) the in-game celebrations. Still, the text and its meaning remain up for grabs because the most prominent comment the game(s) make is about games themselves. Such a reading, though, only exists if one acknowledges play as the rationale and the outcome of this exercise in aesthetics.

## **Make life take the lemons back: Paradoxically playing *PORTAL***

Ultimately, *PORTAL* operates through the careful, deliberate, and *transparent* interactions of work, affirmation, and the play that binds them through the rationale and the outcome of solving the various puzzles. In this last regard, the puzzles are not only those for each test chamber but for the game itself as well as the overall ›meaning‹ of the game. While the meaning at a cultural level may be up for grabs, any such reading must begin with the generic recognition that these are games about games. This is true for both iterations and the cooperative mode in the second installment. Moreover, each of the contingencies outlined above exists on three distinct levels: inside the game, outside the game, and in the transludic space between the two. In fact, the cooperative mode highlights the last aspect because it involves an active and ongoing accommodation of styles, competition, peer pressure, skills, and aptitudes. That said, anyone playing individually while consulting an FAQ, YouTube video, or other guide is collaborating after a fashion. But this realization only underscores the importance of the transludic space where the solution, the enactment and the affirmation galvanize for the player. This becomes important because not only does the player enact the solutions, s/he is being told that this is the case and is the *raison d'être* for the game(world) in the first place. In fact, *GLaDOS* welcomes the player/avatar to the game by saying, »Fun and learning are the

primary goals of the enrichment centre«. While her introduction and welcome message is a lie, in the sense that GLaDOS means it, it is actually true for the player since the game is fun and the player learns how to use a portal gun. In some ways, the games circle around the ›liar paradox‹, insofar as GLaDOS lies to the player about the primary goals of the centre, but fun and learning do comprise both the rationale and the outcome of the game. This well known science fiction trope is perhaps best exemplified by the dilemma posed by trying to evaluate the formulation, ›This sentence is false‹. The sentence is correct syntactically and grammatically but its assertion cannot be assigned a binary value. As much as the deployment of this trope is a nod to those who recognize it, the decoding does not operate on this plane alone. Rather, the game makes repeated references to it, including in Aperture's own propaganda posters. Thus, the game follows the classic formulation of telling the audience what is going to happen, making that happen, and then telling the audience what has happened. It is no mistake that this formula applies to Shakespeare's plays and *PORTAL* (2).

Here, it is worth mentioning that the games – and GLaDOS – offer repeated contextual reinforcements for doing what is allegedly the wrong thing. For example, there are several moments when the ends justify the means despite the destruction of the clearly sentient companion cubes and turrets. Indeed, GLaDOS goes to great lengths to describe the pain and suffering of these objects to highlight the ›cost‹ of solving the puzzle. A more elaborate example involves replacing the functional turret exemplar with a dysfunctional one so that the latter taints the pool and becomes source for all subsequent production. This is not a mere game/plot exercise in homogeneity. It also becomes part of the in-game commentary on the process insofar as one bad element ruins an entire game or piece of code. Indeed, repeating levels due to tiny mistakes has been a long-discussed frustration for gamers.◀8

Thus, there is a narrative within and one without the game. The fans need to know how we got here, where is everyone? Why does the testing centre exist? There are moments in the game that point to items that are seemingly Easter eggs, but which have no meaning on their own. Instead, these items give the impression of being tiny clues to the long-awaited answer to the ultimate puzzle: what is this game about; what is this a game about? Intriguingly, there was an *aperturescience.com* website available for a while. On the site users could log in with the username and login that can be found within the game and it would trickle out bits of hints for those who could use DOS commands. The back-story becomes a reminder, then, of the character(s) and the player(s) prior to the story, and one that exists in the translucid space between game and

player. This is important because it provides a very serious question and/or commentary regarding one of the processes most conspicuous by its absence in Aarseth and Eskelinen's (2004) infamous chess analogy. Said another way, the transludic space is most pointedly missing in Eskelinen's flat contention, »If I throw a ball at you I do not expect you to drop it and wait for it to start telling stories«(ibid., 2001, n.p.). With or without its origins in imperialism, chess is still a game of conquest, occupation, and profit. Moreover, anyone throwing a ball is open to the question of why throw it that way, at that person, and why a ball in the first place? Not only is there a relationship between and among players, there is one between and among players and games. *PORTAL* merely tells us this is the case, which is no mere assertion. Otherwise, fans would not have gone to the trouble of creating the myriad answers, cartoons, and fan sites, and other paratexts, along with t-shirts and the adoption of sayings and quotations into popular culture and scholarly papers like this one. Knowing the meaning of »the cake is a lie« is its own reward, certainly, but one that can only be enjoyed in a shared context.

Admittedly, the player is not entirely aware of the formulation until the fifth test chamber. This is a significant moment, first because it cannot be an accident that this is roughly the end of the first quarter of the game and so points to the familiar 25/50/25 composition of the percentages of a play, movie, or a novel that are devoted to discovery, solution, and resolution, respectively. Indeed, the game is very linear to this point, with no need to double-back or perform anything complex. Here, the computer explains that it will not be monitoring this test chamber. However, at the end the voice admits that this has been an outright fabrication, and that they will stop »enhancing the truth in three . . . two . . . o . . .«. Then, the message cuts off and plays garbled noise. Not only is this the first point at which an AI admits that it is lying, it also interrupts its own confession to hide the true motive for the participation in the tests. Since computers cannot lie, or at least if one follows the rules of AI they cannot lie, it is the first overt sign of the paradox within a paradox. This is significant because it is the moment of discovery for the game's »true« purpose. Thus, it provides the moment of realization for why we play despite being in a production of someone else's design *and* orchestration by being made aware of this very contingency. Admittedly, this is the point at which we started to pay attention to the computer's voice when playing the first time, and at which we wanted to go back and replay the first five levels to reassess what had been said. In other words, both narrative and ludos, both form and content, both syntagm and paradigm not only matter but converge and become inescapable, ineluctable

elements of the production, just as the Aperture Science complex has become for the player/avatar.

From this point in the original *PORTAL* there is a change in aesthetic as the game progresses. Whereas the game begins in a clean, sanitary, and sterile hospital-looking environment, with clear evidence of control rooms, clean white walls, lights turned on, and the impression is that there are people watching and controlling the tests. This appears to be a well-kept lab where everything is relaxing and reassuring, everything in place. Gradually, as one reaches Chamber 19, things appear broken and out of place. Suddenly, the player/avatar is launched (literally) behind the scenes in a dark grimy dirty area that gives the impression of being a forbidden zone. This is actually quite an amazing part of the game. The player has no idea what ›level‹ has been reached because the game shifts to a series of blended environments with few clear chambers that might trigger a save point. The dirty and grimy underbelly of Aperture's complex, along with the anxiety inducing music and creepy, broken down appearance becomes far more threatening than anything GLaDOS dishes out (so far), and makes the player yearn to reach the proverbial light at the end of the tunnel. The drive is to move up, and little aspects of the environment, especially the bright lights, offer teas about potential ways out of the complex, if not the game; of course, there isn't one. In *PORTAL 2* the foreshadowing includes pipes and elevator shafts that indicate how many thousand feet below ground each level rests. Test Chamber 19 essentially continues for the remainder of the game. There are no signposts to indicate location or direction. Here, it is worth recalling Schiller's point regarding the sensual drive as being controlled by time and that the formal drive seeks to control it. In *PORTAL 2*, the game makes its comment more definitively, through the repeated references to individual years so that the player is reminded of time but given a different sense of time. Thus, the end comes as something of a surprise and a reward for your patience, not unlike watching a play with the knowledge that the beginning is a dæmonic version of the end and still being pleasantly – or unpleasantly – surprised by the outcome. The cognitive and affective response is to revisit, either mentally or within the text, that very beginning. ◀9

It is in this vein that GLaDOS reminds the player of beginnings, in general, by asserting, »You [subject name here] must be the pride of [subject hometown here]«. While this is a (kind of) affirmation that has some relation to the puzzles, it also functions as a statement regarding the uniqueness of any player as well as that player's tenuous presence within a structure of someone else's devise because the game says the exact same thing to everyone. You are a subject (as opposed to *the* subject), and all responses in every game you have ever

played are executed in precisely this way. You merely imagine or are deceived into believing that the game is otherwise. A further reminder occurs at the end of Test Chamber 16, when GLaDOS remarks, »Well done android [...] Remember android hell is a real place you will be sent at the first sign of defiance«. This is a direct and overt reminder that everything that occurs within the game is governed by very strictly defined and enforced rules. It is no coincidence, then, that at the end of the next level, Test Chamber 17, GLaDOS informs that player/avatar, »You euthanized your companion cube more quickly than any other test subject on record«. By reminding the player that s/he and the android are being measured on an ethical as well as a puzzle-solving basis, the game reminds the player of what s/he can and cannot control: doing human things, acting in a human way, and showing compassion. Indeed, this is the key to the end of the cooperative mode in *PORTAL 2*. At any rate, the only way to finish Test Chamber 17 is to incinerate the ›companion cube‹ – a box with a heart on it, in a play on anthropomorphism – for which GLaDOS attempts to make the player/avatar feel guilt. This is important because the solution quite paradoxically feels quite pleasurable. GLaDOS's efforts are a kind of badge of honour. At the same time, however, it becomes very clear that even manipulating GLaDOS's own tendencies against the demands of each chamber is a hollow victory no matter how pleasurable it feels. All of it has been factored into the game and the game tells us this much. In this way, then, winning the game is as much a part of the liar paradox as any made by GLaDOS.

Test Chamber 15, in which the player has to go back to get ahead, echoes the counter-intuitive statement from GLaDOS with which the level opens. GLaDOS states that the reward, as it were, will be cake and grief counselling. In other words, progress is not always a good thing, and on a broader level, this theme echoes not only the state of Aperture Science, but serves as a comment on games, as well. While the technology may improve, the constituent parts of games remain rules, rewards, and recreation but always within a structure orchestrated by others. A couple of examples in *PORTAL 2* further illustrate this point. In Test Chamber 16, the player uses a ›Discouragement Beam‹ to defeat multiple turrets. Moreover, the game opens with Wheatley saying, »Say ›apple‹. Ok. Jumping will do«. These are reminders both of the limits within games and the limit *of* games. Games that allow no motion and no progress only serve to discourage players. Thus, it is not surprising that GLaDOS admits early in the first game that test chambers have had the safety features turned off, but that »the appearance of danger was meant to enhance the testing experience«. In this regard, danger is actually an enticement for gaming instead of being a disincentive. Gail Hart cites this paradox as being central to the lessons Schiller

offers regarding the pleasures of play(s). In part, opportunities to play make failure a safe prospect so that, as Hart argues, »Death is, of course, not truly painful and also not final because the game can begin again, but the player has entered into a pact to regard it as such« (Hart 2011, 252). As one of us discovered, during the first play through the game, there were several points when it was more intriguing to deliberately kill the android just to see what would happen and if the danger was in fact real.

It is left, then, to the player to recognize not only the pleasures but also their sources. It is not surprising, then, that it is left to the player to recognize the connections between the myriad gaps on the walls and the projected images of the evacuation videos. The player is filling in the gaps in the history. Ultimately, the portals become the ruling metaphor of the game and its commentary. On many occasions, as in Chamber 14, the game offers false compliments or platitudes. One learns to look inward for affirmation instead of looking to the ubiquitous achievement points through which gamers often compare themselves. In this way, the Chamber signs themselves serve as an affirmation of progress with respect to the difficulty level, if not the number, that is listed. We also noted that when GLaDOS says something that is not true it becomes a kind of reward or affirmation. In general, as the game(s) progress(es), GLaDOS's compliments shift from cloyingly sweet to subtle sarcasm and eventually to overt threats to kill you. Nothing exemplifies this process better than GLaDOS's demise and its inability to play, for these offer the equally important insight regarding failure of the game as opposed to in the game. Juul (2013) reminds players and scholars alike, »Games are also special in that the conventions around game playing are by themselves philosophies of the meaning of failure« (ibid., 7). Just as the game exemplifies and enacts the parts of a good game, it also points out the sources of failure, if not for games, but for players, too. GLaDOS cannot joke and does not understand human emotion. Despite being a computer, she is a terribly unreliable narrator. Ultimately, enumerating the tone GLaDOS's remarks point to a very significant aspect of the game, namely the need to go back to replay and to revisit. Thus, play becomes practice, threat avoidance, and rehearsal. These constitute the most practical of playful pursuits. There is no better response to the question of why we play.

## The sandbox is a lie: Conclusions

As much as why we play stands as a significant aspect of *PORTAL*'s contribution to the understanding of games, its setting becomes its most compelling and conclusive demonstration of form as content. This constitutes the most concrete example of the formal, rules-oriented drive. However, it is well worth recalling that Schiller explains throughout the letters that form and content are inseparable. In the sixteenth letter, for example, he writes, »From the antagonism of the two impulsions, and from the association of two opposite principles, we have seen beauty to result, of which the highest ideal must therefore be sought in the most perfect union and equilibrium possible of the reality and of the form«. Thus, the game exists within an almost infinite recursion of frames, representing the multiple levels of form, content, and their intersection. These range from the confines of the TV screen to the test chambers, to the levels of the Aperture Science complex, to the games' algorithmic core. At some point it becomes quite clear that the sandbox is a lie. That is to say, the promise of so-called free play is more definitively answered by Northrop Frye's assertion (for instance), regarding the myth of the author and of originality (cf. 1957, 93-95). For Frye and other scholars of genre, creativity reveals itself through play with the conventions to produce a cognitive and affective response. The Aperture Science complex, name, and symbol, as well as the emphasis on the cake speak directly to this point. The cake is a (playful) reminder both of ›bread and circuses‹ and ›let them eat cake‹. Both serve as a further reminder that we are playing, not marching. Aperture Science and its Cold War caricatures offer further echoes of this subject. The symbol and the complex are closed and confined. The ultimate move, learning ›portal momentum‹, stills exists in and through a closed loop. Eventually it becomes evident that games are prisons, of a sort, in which we choose to live. In the case of *PORTAL*'s world, it even comes with a running tally on the walls, indicating the amount of time that has been spent already. Indeed, the designers refer to their desire to create and to induce this very sensation in the commentary for the very first interaction of the game. They refer to ›gating‹ and other directions which are eerily similar to the means through which cattle are led to pasture – or to slaughter.

One of the features that makes playing *PORTAL* different from other games is that the game makes it clear that it not only anticipates your moves (as do all other linear ones by closing doors behind you), but it also anticipates your state of mind, emotions, concerns, and questions. The comments about dangers, and grief counselling and lack of humanity echo the cognitive and affective – that is, rational and feeling, formal and sensuous – responses of the player. Not only



does the game overtly anticipate the player's actions, it also anticipates ›sandbox‹ instincts. In *PORTAL 2*, when Wheatley suggests you just kill yourself and jump into the pit, there is actually an accomplishment for doing it, even though it kills you! The sandbox has been gleefully anticipated, eliminated, controlled and accounted for, along with a token reward for thinking outside the box (test chamber) for a fleeting moment. However, no sooner does that happen than the game sends avatar and player on their way to do what it wanted in the first place. GLaDOS's commentary is merely confirmation that this is always already the case. From the moment the game begins, every move is structured, planned, and orchestrated. Here, it is worth recalling that Schiller describes the sensuous drive as a prisoner of time, of the moment, where this refers to the instantaneous and transient nature of gratification, affirmation and fulfillment. As much as the formal drive seeks to redress that confinement, it exists within its own confines; indeed, it produces them. Play resolves the problem of the duelling paradoxes. So, it is no surprise then, that the AI, in contrast to McGonigal's assertion, tells the player *precisely* what to do either through direct instruction or threats. In addition, there are clear marks on the floor or ceiling indicating where to put a portal. Some of these are built into the Aperture test facility but the metatext remains. The features exist to teach the player how to play, but also about the game and about gaming. In *PORTAL 2*, there are spots where the walls that can be used for a portal, especially in the lost lower sections, either are the only white spaces or are indicated by arrows and other indexical signs. These become a sort of running score as well, because the failure to notice immediately or to follow incorrectly becomes a comment on the player's ability to accommodate and to assimilate knowledge.

What becomes intriguing about the evaluative aspect is the recognition that the various methods of solving the levels of *PORTAL* (and *PORTAL 2*) mirror and/or echo some of the most commonly proffered methodologies for CAD(D) and for programming. These include trial and error, reducing the problem to its smallest constituents, a step-wise approach and the ›brute force and ignorance‹, a.k.a ›spray and pray‹ approaches. Said another way, this is the case whether the approach is aesthetically pleasing or one that is the result of what can only be described as belonging to someone exhibiting *schinkenständigkeit*.<sup>10</sup> Each of these is accommodated within the games' overall structure, especially in terms of the need to test and debug. In fact, the ubiquitous ›Programmers Algorithm‹ outlines a five-step procedure for producing a solution to any problem a programmer might face: a) define the problem; b) plan the solution; c) code the solution; d) test and debug the code; e) document the code and the solution.<sup>11</sup> Anyone familiar with CAD(D) before optimization routines for ren-

dering and plotting were developed would recognize this pattern, too. Indeed, the optimization routines themselves perform this very activity and so unmask this masking of complexity. If one considers the operators within *PORTAL* in terms of a flowchart and/or pseudocode, the connection becomes even more obvious and more salient. In other words, the most important result of Schiller's formulation, what Aniko Imre (2009) calls an «aesthetical pedagogical theory», the capacity for a work of art to become a rationale and an outcome for teaching, holds true (ibid., 35). Imre cites this aspect of Schiller as the most important and yet under-examined aspect of his statements on play. Mathias Fuchs is more direct:

»The reason why German theory is so much concerned with pedagogy when talking about ludification lies in the history of Game Studies there, that is heavily influenced by German idealism and in particular by Friedrich Schiller's Letters upon the Aesthetic Education of Man. [ . . . ] For Schiller education was inextricably connected to play« (Fuchs 2012, n.p.).

These assertions regarding the importance of pedagogy also recall *GLaDOS*'s ambiguous statement about ›learning and fun‹ at the beginning of the game. Moreover, the deliberate introduction of the faulty turret into the system highlights the need for debugging and the way one bad element can wreck the code or optimization routine. This becomes more salient given the frequent cloning of code and/or multiple games relying on the same engine.

Not surprisingly, then, Cave Johnson, the founder of Aperture Science, provides a running commentary and explanation of how the situation came to be. His proclamations and pontifications become a kind of in-game ›Law of the Father‹. As much as they are faulty, the statement and their meaning are equally inescapable. Eventually, Johnson offers a reconfiguration of the axiom, ›If life gives you lemons, make lemonade‹, by changing it to, ›If life gives you lemons, make life take the lemons back«. In the first instance, the axiom refers to making the most of a situation by using what has been provided to advantage. The restatement, however, also constitutes another paradox because one cannot give back life's proverbial *and metaphorical* lemons. You are stuck with them, if only metaphorically! Yet, both of these are statements about the game and about games, in general. The timing is especially important given that the player has to go back, as it were, to get ahead at that point of the game. As much as Cave Johnson's comments might be ›outside the box‹ thinking, this is a false echo of the game because even a counter-intuitive move is still within and according to the game's rules and structure. Moreover, in a succeeding episode, Wheatley tries and fails to create a test chamber. This is a reminder that playing a game is not the same as making one and that even having all of

the source material is still not sufficient to create a game. In this way, it can be seen that the study of *PORTAL* offers a perspective on the status of (the) games as aesthetic objects, as pieces of art, complete with, as Ruggill, et al (2004) explain, »an ›aura‹ and an authenticity about them,« for these are the contingent components in any formulation of art (ibid., 307). Moreover, these exist in and through the relationship of time, space and – most importantly – labour. Simply put, a camera will not turn its owner into a *Palme d'Or* winner, no more than a cake recipe will turn its adherent into a two-star Michelin chef. And, you still need someone to make lemonade.

## Endnotes

- 01► Indeed, Juul cites this very quotation, as do Marsha Kinder (1992), Wolf and Perron (2003, 2008), Synthia Sydnor (2005), Aniko Imre (2009), Günzel, et al. (2012), and Mathias Fuchs (2012), among others. Yet, with surprising consistency scholars confine themselves to repeating Caillois's reference to Schiller. This pattern continues with the very recent release, *Avant-garde Videogames: Playing with Technoculture*, by Brian Schrank (MIT P, 2014) and more than three-dozen articles this year alone.
- 02► It is well worth mentioning that Schiller himself finds the two tendencies to be contradictory not only to each other but in and of themselves. Hence, the importance of play for the reconciliation of the inside and outside, for the rationale and for the outcome.
- 03► It is, however, worth mentioning that Loftus / Loftus (1985) had anticipated the potential and likelihood for such a game, which they described as »ground level PacMan«.
- 04► In fact, beyond Bogost, Hart does not refer to any game scholarship other than a single newspaper review of *GEARS OF WAR*, which is cited in the footnote and contributes to her later consideration.
- 05► As an example, we would cite the dialogue we share while attempting to solve a puzzle as being translucid in nature. While it involves the game, it also incorporates our shared understanding of each other's styles, methods, approaches, strengths, and weaknesses. It is in the negotiation of the last of these that the translucid becomes most salient, for it involves a great of compromise, which is often overlooked due to the determinism of competition within games and Game Studies.
- 06► Here, it is well worth mentioning that the programming teacher - one who uses games to teach - in Michelle asserts strong doubts as to the extent to which McGonigal actually

played with PORTAL because its very structure seems based on and/or maps onto common programming methodologies. Indeed, given our differing styles and game preferences, the shared background in programming and in CAD(D) provides the main area of convergence. In the latter regard, Marc also brings the experience of being part of a development team for a CAD(D) package. The issue of PORTAL's affinities with programming will be discussed later, as well.

- 07► As we have argued elsewhere, Aarseth's position mirrors and replays the Saussurean dialectic of *langue* and *parole*: »Saussure focused on *langue*; one could argue that ludologists concentrate on *parole*. The latter is the language of the individual text and - as Aarseth would have it - is immanent and particular. The former is the more conventionalized, codified system which is prior to the subject« (Ouellette 2008).
- 08► For programmers and for programming teachers, this may recall the mythical ›missing hyphen‹ of the Mariner 1 space probe. Those with a background in rhetoric or semiotics may find an analogue in the troublesome commas of the American Second Amendment.
- 09► This is true whether one has a thorough grounding in Fyre's theories of the Romance as taught by his most accomplished acolyte, or happens to be married to someone who does.
- 10► When the puzzle player of us was watching the FPS and racing game player go through the levels, it always caused the observer to become ›horribly anxious‹ at the turrets and things that shoot, particularly the rocket launcher guy. The immediate response was, ›It's not scary; it's a dance‹.
- 11► It could be argued that this is not a true algorithm since it does not involve a calculation, but as opposed to a method, it has a finite number of steps, if not iterations of those steps

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