“Valid” Failure in the Design of Digital Games: An Introspective View from a Player’s Perspective

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Summary

This paper identifies a knowledge gap about certain forms of failure, what I call valid failure, found within video game design from developer commentary. The theories developed thus far for categorising and exploring player failure in general are quite limited but this is particularly true of those associated with the validation of failure. A literature review of the research surrounding the areas of failure within game studies, psychology and learning studies provides both a foundation upon which to expand on the theory of valid failure within game design and also the tools to develop it further. A methodology for analysing games to determine their ability to validate player failure is developed and applied to three case studies, analysed from a player's perspective, which are representative of broader trends within game design relating to designing for valid player failures. This paper lays out one possible design strategy that can be taken when exploring such design approaches, a strategy grounded in interpreting failure through the lens of challenge. However, further exploration is needed to achieve a real understanding of such a complex phenomena.

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Abbreviations

NPC - Non-Player Character.

RPG - Role Playing Game.

LARP - Live Action Role Playing.

Introduction

The purpose of this paper is to consider "valid" failure in the design of digital games from a player's perspective. In interviews about the design of their game *Pyre*, developers Supergiant Games speak at length about their interest in creating an experience which allows players to "consider the outcomes of defeat"[1]. *Far Cry 2* contains a buddy system, whereby the player can encounter characters in the game world who will show up when the player is about to die, drag them to a safe location and revive them before proceeding to help them during the rest of the fight. These buddies are then vulnerable themselves, and may permanently die as a result of their attempts to save the player.[2] Clint Hocking, creative director for *Far Cry 2* has said of this system:

"When you're playing a game and you die, sure, you have lost some time, but with most games today you don't even get reset more than 10 feet back. With this game it was more to say that now there's a real stake. Now this buddy rescue has happened, now your ante is on the table... You have skin in the game at that point, because now it's a gameplay asset, and hopefully it's more than that, hopefully it's a friend and ally, that is going to be lost if you don't deal with the consequence of your failure."[3]

Similar attitudes to failure can been seen in the inclusion of features such as an "ironman mode" in games such as *XCOM* and its sequel, which prevents the player from saving the game on more than one file and automatically updates it after every minor decision.[4] The recent popularity of roguelikes, games which reset the character all the way to the beginning of the game upon player failure and procedurally generate a new challenge for players to attempt all over again, is further testimony to the appeal of such an approach.[5] Critic Shamus Young has even referred to games which have an inability to move on in the face of a player's failures as "Do it again stupid" games,[6] and while I do appreciate this phrasing's ability to draw attention to the way in which such designs can trivialise failure it is necessary to depart from Young in the

[1] Francis (2017)a
[2] Far Cry 2 (2008)
[3] Camron (2015)
[4] I am unable to find data on the percentage of players who play in such a mode, but the inclusion of such a mode at all should indicate that there is some appetite for this kind of experience of failure among players as well as an appetite among developers to explore it.
[5] See *The Binding of Isaac, Nuclear Throne* or *Enter the Gungeon* for examples of roguelikes.
[6] Young (2006)

specifics of his criticisms. The sentiment expressed by the games and designers at Supergiant, Ubisoft Montreal and Firaxis is that we should embrace these failures as an important part of the experience, rather than allow their impact to be undermined by allowing them to be ignored.

Games designed to promote this attitude towards failure represented by the sentiment expressed above are the subject of the the research question of this paper, what I will be calling games which "validate" a player's failure. The capacity of such games to continue in spite of a player's failures, and their ability to respond, react and ultimately respect those failures as being as important an aspect of play as their successes is the subject of this paper. Most games, but not all, have a habit of trivialising failures and moving swiftly on to the player's next attempt at success. Players are presented with game over screens, character death, respawning at checkpoints or save load cycles[7] as extremely common responses to failures, all of which simply present a world where the failure which caused it never occurred. Thus, the study of failure in games is very much in its nascent stages and to my knowledge the kind of attitude to failure described and explored by Supergiant, Ubisoft Montreal and Firaxis has never been studied in any great depth. Jesper Juul appears to be alone in addressing the subject of failure in games directly, particularly in his attempt to construct a model of the phenomenon in games.[8] While there are a number of criticisms that might be levelled at his approach, particularly with its inability to handle the kind of valid failure discussed above, Juul's account will nonetheless form the foundation of my own reasoning in this paper. In many ways, the theory developed in this research paper is best interpreted as an extension of Juul's work, filling out some of the perceived gaps in his account and using it to explore a new dimension of failure within digital games.

The remainder of the paper is structured as follows; the literature review considers the concept of failure in general and how it has been explored by previous research in a variety of fields. Following this is an outline and then criticism of Juul's approach in *The art of failure* when considering the valid approaches that developers have discussed above. This criticism will be used to generate a methodology for assessing the factors which contribute to a failure's validity before finally using this methodology to document the findings relating to the analysis of three games in which valid failure occurs. It concludes with a discussion on the principles of valid failure in game design from a player's perspective before offering recommendations for future research and application in practice.

[7] A save load cycle is the process of saving a game in a particular state and then being able to re-access this state at some time of their choosing in the future.
[8] Juul (2013)

Literature Review

Failure

The concept of failure is currently taken somewhat for granted within game studies and usually goes undefined, even in studies which address it directly. For instance, *The art of failure* never explicitly defines it, but a review of Juul describes his definition as "a manifestation of the gamer's limitations".[9] This is an apt description of how he approaches the topic - his interest is primarily in looking at failure as something which reveals flaws and deficiencies in players and how they respond to that.

Merriam Webster on the other hand has defined failure as simply "to be unsuccessful",[10] an approach which has seen some criticism. In their paper "Making people fail: Failing to learn through games and making" learning sciences researchers Littz and Ramirez also suggest that current definitions of failure, such as the dictionary definition above, focus "on the negative implications [of failure] such as not meeting a desirable, or intended objective" and instead suggest a definition of failure which sees it as a part of the process of learning.[11] They stress the fact that when a student fails they may still have learned something and that in fact "learning is a process propelled forwards by failure".[12]

Littz and Ramirez's provide an admirable approach and one which is not necessarily contrary to the proposal put forward by Juul. After all, for Juul the entire point of seeing our limitations being manifested is that it serves as a call to overcome them. This said, defining failure within the context of learning seems to be something of a mistake for the purposes of understanding the idea of valid failure in games, as such design structures tend to emphasise the emotional impact of in game failure at the expense of the player's capacity to learn through repeated failures - there is one opportunity for success and the player must struggle with the consequences of failure as opposed to re-struggling with the challenge they failed earlier. For this paper then I will primarily be interpreting failure through the lens suggested by Juul, that is, as "a manifestation of the player's limitations", as it prioritises the notion of player responses to negative events of their own making.

[9] Lorentz (2014)
[10] Cite Properly.
[11] Littz and Ramirez (2014)
[12] Ibid. p.3

Learning through failure

As mentioned above, Littz and Ramirez have argued that learning is "a process propelled forwards by failure".[13] Educators have struggled with the problem of students becoming discouraged when they fail or underperform and sought to remedy this through exploring student failure within learning environments.[14] These views of failure in education and learning are supported by Weiner, who has shown that we tend to reflect more on our failures than we do on our successes.[15] He proposes that this is because a failure indicates that something is wrong which requires our attention while success indicates that we are functioning properly and nothing needs to be done.[16]

Attribution theory is a psychological model aimed at understanding how we search for the causes of given events.[17] One application of the theory has been to use it in learning research to explore the causes of helpless learners, students who consider themselves too inadequate and incompetent to be able to understand or complete any new challenge and as such give up before trying. Abramson et al. have proposed a model of student attributions which correspond to a learner's likelihood of becoming helpless, with the former of each pair being more likely to result in a helpless learner:

1. *Internal vs external* - attributing failure to the individual *or* to the task.
2. *Stable vs unstable* - whether the individual believes their future performance to be consistent *or* subject to change.
3. *Global vs Specific* - whether the individual attributes the failure to their general ability *or* to their ability in this particular task.[18]

Juul has argued, from the premises of Abramson et al.'s theory of helpless learners, that games create an environment within which we can fail safely by encouraging us to attribute our failures to unstable and specific causes while leaving it open to the player whether or not to internally attribute their failure. This is essentially the maximally protective environment for a person to fail while still preserving the possibility of the internal attribution which is necessary for us to change in response to failure. He has also proposed that the psychological damage to

[13] Ibid.
[14] Littz and Ramirez (2014), Anderson et al (2017), Abramson et al. (1978) and To et al. (2017)
[15] Weiner (1985)
[16] Ibid p.81.
[17] Försterling (2014)
[18] Abramson et al. (1978)

one's self esteem can result in self-defeating behaviour where we undermine the task's capacity to accurately reflect our true skills and competence by deliberately underperforming. Procrastination, not practicing or studying and refusing to take the challenge seriously in the moment are all means of not really trying to succeed and through this we can claim that our failure to succeed is not representative of our true skills.[19] Juul's theorising above is also supported in Petralito et al. in that they connect high reported levels of difficulties and failures with both a greater sense of achievement and with a larger sense of having learned and improved among players who played *Dark Souls 3*.[20]

Failure in games

In game studies, Juul has found that we tend to prefer games in which we fail to those in which we succeed without ever failing[21] and Ravaja et al.[22] have shown that our physiological responses to failure in games, on the surface a negative event, are often in fact more closely aligned with those seen in a positive event. This correlation between positive and negative experiences has been explored more thoroughly within LARPs[23] by Montola and Hopemaesta, both of whom found instances of similar phenomena of outwardly negative experiences being correlated with positive reception by players.[24] While Montola and Hopemaesta both developed this notion within the context of LARPs, Jørgensen has argued for its applicability to the player experience of Digital Games in relation to *Spec Ops: The Line* and *Dishonoured* specifically[25].

As such, the benefits of failure do not come without some risks. The claim is not that designers ought to simply design to maximise the positive aspects of failure and minimise the negative; both the positive and negative reactions are meaningful responses to game events and neither should be considered unworthy of exploration by designers. The so called Positive-Negative experience,[26] abusive game design[27] and the notion of emotional challenge[28] should all give pause to anyone wanting to claim that design can be so straightforwardly hedonistic.

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[19] Juul (2013), p.53
[20] Petralito (2017)
[21] Juul (2009)
[22] Ravaja et al.
[23] LARP: Live Action Role Playing: a game where participants physically portray their characters and pursue goals within a fictional setting represented by the real world while interacting with each other in character.
[24] Montola (2010) and Hopemaesta (2014)
[25] Jørgensen (2016) and Jørgensen (2015)
[26] Montola (2010), Hopeamesta (2014) and Jørgensen (2016)
[27] Wilson and Sicart (2010)
[28] Bopp et al. (2018)

This said, understanding how these reactions can occur will at worst lead to increased control over one's design and at best inspire entirely new design structures.

While games do provide the safety and comfort with failure that researchers have valued in the learning environment, this paper will argue that safety is dependent upon aspects of the design and that there are reasons to consider designing to compromise that safety for the purpose of greater emotional impact.

Complicity

The research directly connected to failure in games has been quite sparse and broadly scattered. One of the few threads that run throughout the body of research is the notion of complicity.[29] Designers Brathwaite and Smith have proposed this notion as a means of understanding player's reactions to Brathwaite's game *Train*, which sees players trying to efficiently load little figures onto a model train and push it towards the end of its track. When one train finally does reach the end of a track, a destination card is flipped, which up until this point had been hidden, revealing the name of a Nazi concentration camp such as *Dachau* or *Auschwitz*. Often the game stops under the weight of this realisation, and players or audience members who figure this out before this point have been reported to use means outside of the game's rules to prevent it from proceeding.[30]

Miguel Sicart has expanded on the idea of complicity in a more theoretical frame, claiming it is a consequence of an attitude adopted by players when approaching a game from an ethical perspective.[31] Player's essentially agree to become complicit with their actions within a game world and in return their engagement with that world is enriched by the newfound applicability of their own moral reasoning to their actions within this world.[32] Sicart's theory of ethical game design[33] and theories of emotional challenge offered by Bopp et al.[34], Cole et al.[35] and Denisova et al.[36] have provided compelling reasons to think that challenge and goals in games can be usefully expanded beyond the domain of formal proficiency into the realms of ethical and emotional challenges respectively.

[29] Jørgensen (2016), Juul (2013) and Sicart (2013).
[30] Logas (2011)
[31] Sicart (2013), p.21
[32] Ibid, p.21
[33] Sicart (2009) and Sicart (2013).
[34] Bopp et al. (2018).
[35] Cole et al. (2015)
[36] Denisova et al. (2017)

Goals and challenges

Challenges and goals are two interlocking concepts used to characterise a player's interactions with a game. Adams defines challenges as being "any task which is set for a player which is non-trivial to accomplish".[37] He continues, arguing that a challenge can be subdivided into smaller challenges while goals are "the largest challenge in a game". This is constituted by a number of smaller challenges which all eventually lead up to the game's goal,[38] a position which supported by Salen and Zimmerman's concept of "goals within goals".[39] He also argues that challenges must be overcome by "either mental or physical effort", a distinction recognised by many researchers through the divide between cognitive and physical challenge.[40] Juul takes a different approach, emphasising the effect of failing the goal, how that reflects on the player and reveals them to be deficient in some sense.[41] Identifying completable goals which we finish once and for all, transient goals which we get one shot at and are either successful or fail forever and improvement goals where the completion of the goal simply presents us with a new more difficult goal, he proceeds to combine these with three paths to achieving those goals through skill, chance and labour to produce a matrix of nine possibilities for goals to "set us up for failure and success".[42] I disagree with Juul on this point and as such I would like to explore this disagreement in detail below, but for now I will just say that this analysis does not fully represent the full spectrum of challenges and goals which are to be found in games and as such does not represent the full spectrum of ways in which players can fail them.

Some recent research has rejected this account of challenge and goals and argued for the inclusion of more informal forms of challenge, most notably emotional challenge.[43] Cole et al. understood emotional challenge as the task of "resolving tension in the narrative, by identifying with the characters and by resolving ambiguities" which they contrast with what they call functional challenge, the more common means of challenging a player through mastery of the formal mechanics of the game.[44] Desinova et al. have also proposed the notion of social challenge, challenge dealing with our ability to interact with other persons such as reading opponents, meshing with teammates and deceiving or persuading other people, as a subset of

[37] Adams (2013) p.8
[38] Ibid. p8
[39] Salen and Zimmerman (2004), p343
[40] Denisova (2017)
[41] Juul (2013)
[42] Juul (2013) p.83
[43] Cole et al. (2015), Bopp et al. (2018) and Desinova (2017)
[44] Ibid p. 122.

cognitive challenge.[45] Bopp et al. have provided the most recent exploration of this topic, and their conclusions suggest that Cole et al.'s account of emotional challenge needs to be expanded beyond the domain of narrative and become inclusive of player emotional responses to the formal challenges presented by a game such as frustration, anger and the processing of such emotions.[46]

The notion of social challenge has also been further explored within this study, with some evidence found in social challenge's support.[47] It is also worth noting that a large number of the emotional challenges reported by players in Bopp et al.'s study specifically described ethical dilemmas as being the source of instances of emotional challenge, such as the decision to accept immigration requests of certain sympathetic characters who do not have their papers in order in *Papers, please*.[48] Such reports echo those found in Jørgensen where the act of engaging in war crimes which result in the deaths of large quantities of civilians produced in players feelings of guilt and regret.[49] In order to draw a distinction between challenges of ethical reasoning and emotional processing I will be referring to such challenges as "ethical challenges".

Miguel Sicart has introduced the notion of ethical play which is a form of play where the player engages with the world represented by the game as an ethical person attempting to live a moral life.[50] This is a theory which I want to rely upon to flesh out this notion of ethical challenge while also borrowing his constructionist theory of an ethical player to better understand a player's relationship with the formal and informal elements of a game.[51]

The theory of flow

The exploration of challenges within game studies has trended towards doing so from the perspective offered by Csíkszentmihályi's Theory of Flow.[52] This theory has proposed that what is known as the flow state is the ideal state for a player to be in when playing through a game, with the flow state being understood as an "optimal experience", one where "one acts with a deep but effortless involvement that removes from awareness the worries and frustrations of

[45] Desinova et al. (2017)
[46] Bopp et al. (2018)
[47] Ibid. p8
[48] Ibid.
[49] Jørgensen (2016)
[50] Sicart (2009) and Sicart (2013)
[51] Sicart (2013) p.77
[52] Csíkszentmihályi (1990)

everyday life".[53] This is achieved in games primarily by matching the difficulty of the challenges the player faces with their skills as a player. It then steadily scales the challenge as the player's skills improve through play.[54] The effects of analysing challenges and goals through the lens of this theory has the effect of prioritising the act of being challenged as opposed to the effect of any of the challenge outcomes and in particular the effects of failure. This is a theory which comments on how a designer might alter the difficulty of the challenges they present to the player over time as opposed to exploring the nuances of the outcomes of a challenge and as such makes it an unsuitable approach when considering failure specifically.

Discussion of *The art of failure*

I want to draw attention to and emphasise some of the arguments Juul offers in particular as these form the foundation of my own views on how to interpret and analyse the validation of failure in the analysed games. I will begin with looking at how he uses attribution theory and follow this up with his own examination of failure in the context of challenges and goals, after which I will offer my own criticisms on the basis of some of his own specific categorisations within his own model and a too narrow understanding of the kinds of challenge which we can be presented with in the context of a game.

Attributions and failing comfortably

The concept of helpless learners proposed by Abramson et al. suggest that learners attribute their failure to an internal/external cause, a stable/unstable cause and a global/specific cause.[55] Those whose attributions say that the cause of any particular failure was themselves, that they cannot change the aspect of themselves which caused it and that this flaw speaks generally about themselves will experience the most pronounced negative responses to their failures (e.g. internal, stable and global attribution). Alternately, those who blame the task for being unfair, think they could have potentially succeeded and think of the skills required for completion of the task as being only useful for that task and that task alone (e.g. external, unstable and specific attribution) will minimise those negative responses. Something worth noting about these attributions is that they are all manifestations of how individuals respond to their failures and as such how any particular event is attributed is potentially open to negotiation - it is all a matter of how the person frames the event in question.

[53] Csíkszentmihályi (1990)
[54] Salen and Zimmerman (2004), Adams (2014) and Schell (2008)
[55] Abramson et al. (1978)

Within games, design can guide this player response. For instance, Juul looks at the constant feedback provided by *Brain Training* to examine how a particular design might push our attributions in one direction or another. After every group of tasks, the game assigns the player a "brain age", essentially a score but also an implicit judgment of the player's mental quickness. This direct judgment of the player encourages them to attribute the score to an internal cause, which in the case of failures may result in potentially harmful attributions.[56] However, *Brain Training* also offers a clear path to overcome this personal flaw by claiming that if the player continues playing they will get better and as such encourages its players to think of their failure as being unstable.[57] This combination of attributions is one which Juul appears to prioritise for designers to attempt to engender in their players.[58] An internal attribution encourages players to examine themselves for the flaw while the unstable attribution reassures them that this flaw is contingent and subject to change. As such Juul indicates that this pattern is prone to encourage self-reflection as a response to failure.[59]

The above pattern can be considered a default approach to shaping player attributions and could well be lurking in the background of design discussions on the subject of fairness[60] such as Rouse's claim that "Players need to only blame themselves for not succeeding".[61] Alternate approaches include *Darkest Dungeon* with its stated design goal of sometimes punishing a player despite them not having made any mistake at all.[62] This effectively encourages an externalisation of the attribution in question.

Returning to the notion that how we attribute failure is open to negotiation, Juul has invoked this phenomenon as a means of arguing that games are uniquely suited to exploring the experience of failure. He has proposed that games create an environment where we are free to indulge in the beneficial effects of failure while minimising our exposure to the risks associated with failure; feelings of inadequacy, damage to one's self esteem and of course the material consequences of failing.[63] Regardless of how damning the failure is of ourselves, we are always capable of brushing it off with the old idiom "it was only a game" and this feature

[56] Juul (2013) p.52
[57] Ibid , p.52
[58] ibid. , p. 53
[59] Juul (2013) p.53
[60] A priority of such discussions is often the notion that the player should feel like they can blame themselves for their failures, which strikes me as a similar reaction to the ideal response to the pattern Juul identifies.
[61] Rouse (2000) and Adams (2014), p.231
[62] Darkest Dungeon: a Design Postmortem, GDC Vault, (2016)
[63] Juul (2013)

allows us to shift the attributions we apply to the outcomes of a game quite freely.[64] This makes the task of confronting those negative effects of failure something which we can take at our own pace, or not at all if we prefer, making a game perfect for selectively exploring our flaws and deficiencies with minimal risks.[65] This is a fine analysis, but Juul's observation that design can guide and shift our attributions hints that this may not be accurate in all cases and I will argue below that valid failure breaks somewhat from this approach.

Types of challenges and how to fail them - *The art of failure*

I mentioned above that the outcomes which the kinds of challenges *Darkest Dungeon* wants us to overcome have a different meaning than those which follow Juul's more straightforward approach. Juul has given us a good foundational model to understand the kinds of challenges we can encounter.[66] Positing three kinds of goals, completable, transient and improvement, alongside three means of achieving them, skill, chance and labour, Juul uses these component parts to draw up a matrix of nine possible means by which we can be challenged and through this nine possible means by which we can fail. To summarize Juul's matrix:

Goals:

1. Completable goals: goals where the player is considered failing until they complete it, after which they have succeeded at it forever. Juul has in mind here most single player games of progression, such as *Bioshock*, *Uncharted*, *Mass Effect* etc.
2. Transient goals: these goals are tied to a specific game session, one in which we either succeed or fail and that success or failure will be with us for life, such as losing a game of chess. Similar goal structures can be found in roguelikes and the design structure of a "run".
3. Improvement goals: essentially completable goals where success only gives you a new target to reach for. High scores are a classic example of this kind of design strategy.[67]

Paths to Success:

1. Skill: challenges of skill are perhaps the most recognisable. A player enters into a game with a certain set of skills which are tested by the game's systems. Failing at a challenge of skill indicates a flaw with that player's abilities, and succeeding implies they were

[64] Ibid. p.123
[65] Ibid. p.124
[66] Ibid, p.88
[67] Juul (2013), p85

sufficiently skilled. Juul thinks these kinds of challenges are most closely associated with learning through failure and self-reflection, as echoed by Littz and Ramirez above.

2. Chance: challenges of chance are often maligned and associated with gambling, though not necessarily so. A player simply relies on luck to surmount these challenges and while failure in them may be interpreted as benign it may also be interpreted to have cosmic consequences such as being an unlucky person or being on poor terms with fate.
3. Labour: challenges of labour are primarily overcome by investing the time required to achieve them. Failure in this kind of challenge are usually indicative of laziness or a lack of commitment.[68]

Looking at the above goal types and the failures associated with them, it is clear that the transient failure is what should form the backbone of validated failure. They have a permanence that both other forms of failure lack and cannot be undone, only confronted and overcome within the context of their existence and the flaws they imply about the player. More than any other kind of failure they encourage an internalised attribution, which is also a precondition for self-reflection and growth from failure.

Criticism of *The art of failure* - Transitive narrative failures

Juul thinks that for any given game we can identify the kinds of goals and challenges presented and combine each of the above goals with a means of achieving them to get a sense of the kind of failure which is explored within the game.[69] I appreciate Juul's analysis but there are issues both with how it is applied to specific examples, in particular when applied to single player games of progression with a strong narrative focus. For instance, Juul categorises traditional RPGs[70] as being characterised by completable goals achieved by challenges of labour.[71] Completable challenges, says Juul, are characterised by a kind of "not-having-yet-succeeded"[72] deficiency being assigned to the player at the game's outset, which becomes a simple "succeeded" forever once they have seen the credits roll. The problem with this approach is the

[68] Juul (2013) p 74 - 79
[69] Ibid p 88
[70] RPG: Role Playing Game where the player controls the actions of a character (and/ or several party members) immersed in some well-defined world.
[71] The categorisation of these games under the heading of challenges of labour is one I disagree with, even outside of the realms of narrative challenges, but I feel as though my reasons for doing so are likely uninteresting. As such I will simply note it here and move on.
[72] Ibid p79.

tendency to focus on the formal aspects of such games at the expense of a player's critical and emotional engagement with such games as well as an over emphasis on the overall end goal of a game at the expense of its more granular challenges found in Adams, Salen and Zimmerman and Schell.[73]

A question arises; when attributing the successes and failures experienced when playing a narrative focused game, how important to the player is the actual completion of a narrative focused RPG? Juul's own example is *Mass Effect 2*, so let's proceed with that. Is our reaction to completing the game satisfaction at having overcome the completable challenge of finishing the game, as Juul implies? Or after slogging through the Collector home base, being responsible for decisions which put our party members in life or death situations (and in all likelihood getting some of them killed due to poor decision making on our part) and being forced into making a rather significant decision about the final fate of the Collector base with very unclear ramifications for the future, are we not preoccupied with placing those decisions and events into the new context that a narrative ending typically provides? There are a litany of possible failures to account for in just this final section which are unrelated to the completable goal of finishing the game, and it is perfectly possible that a player's reaction to their completion of such games is in fact despondence about these more granular failures as opposed to the elation associated with the broader end goal of completion of the game.

Playing a narrative focused game is a repeatable experience and each playthrough will be different, but not all playthroughs are equal nor will a mistake made in one be necessarily overridden by success in that same event in another. For example, the first time playing through any narrative focused game is usually a privileged one, more representative of our naive reaction to the events depicted by the game and thus more personal. Although we are unlikely to have seen everything the game has to offer on subsequent playthroughs we have significantly more information than we might have on an initial playthrough, in particular relating to how certain events with unforeseen consequences may actually play out.[74] This is doubly true for the process of reflecting on our failures, it is often trivial to avoid a failure which we have already experienced previously in such a game. Successes and failures during this first playthrough are much easier to attribute to an internal cause because of this - we have only ourselves to rely on. All of this points to a playthrough being a discrete identifiable event with its

[73] Adams (2014), Salen and Zimmerman (2004) and Schell (2008)

[74] The experience can be compared to the phenomenon of "metagaming" found in traditional pen and paper RPGs or LARPs, where a player might know something that their character likely would not. Acting on this information is often seen as a faux pas, undermining the legitimacy of not only that one player's experience but of everyone playing the game.

own identity and as such some of the successes and failures within it can be considered transient. The play within a narrative focused game can be interpreted as being contextualised by a completable goal but to allow this one challenge, and this one form of failure, to characterise the experience of such games seems to be a mistake.

Ethical and emotional challenge

Something to note about Juul's analysis above is its focus on the formal systems of games, which comes at the expense of the meaning created by the surrounding fictional and aesthetic qualities which are built on top of these formal systems. This engages the theories of ethical and emotional challenge discussed in the literature,[75] however it would be unfair to simply claim that Sicart's ethical play fits neatly into the framework I have proposed above as an ethical challenge. In Sicart's own words, ethical play is:

> "An experience in and of play that disrupts the progression towards goals and achievements and forces players to address their actions from a moral perspective. Ethical gameplay is play that looks at itself to evaluate its purpose, meaning and impact. Players may voluntarily take that challenge and let themselves be moved by the game."[76]

Note his explicit statement that ethical play "disrupts the progression towards goals and achievements" and its apparent incompatibility with my reliance on challenges and goals as a means to understand ethical failure. I think this tension can be reconciled however. Sicart applies this criticism to what I have been calling the formal goals of a game, objectives defined within what he calls the procedural gradient of abstraction or the state machine - in essence its system of rules.[77] The value of interactions confined to this gradient are "limited to the well-functioning of the game system".[78] The implications of this limitation for failure would presumably be that failures within this gradient of abstraction can only be associated with a reduced functioning of the game system in return. This is contrasted with the semantic gradient of abstraction or the simulation, which roughly corresponds to what I have been calling a

[75] Sicart (2009, 2013), Bopp et al. (2018), Cole et al. (2015), Denisova et al. (2017)
[76] Sicart (2013) p.29
[77] Sicart (2009)
[78] Ibid p198

player's informal engagement with a game. Sicart gives an excellent account of this kind of engagement in what he calls the constructionist approach to player anthropology:

> "The word *constructionist* here refers to the capacity and duty of agents within a game to constitute themselves as ethical agents - that is, to create and practice their virtues and thereby become a better human being. Creative players do not merely push buttons. They actively configure the game state (by means of interactions with the ethical virtues, other agents and the gameworld itself) and the effect of playing the game in their lives."[79]

Worth noting about this constructionist approach is that the existence of the challenges and motivations associated with the theory is contingent upon the actual construction of the ethical context in question, something which can only be done by the player. This means that each particular ethical construct will be different and that each player will be presented with different ethical challenges depending upon their values. Furthermore, the informal goals I have been speaking about are quite a bit broader than the goals of Sicart's ethical players; they can be generated by any constructionist act on the part of the player, not just those associated with ethics and moral reasoning.

There is a certain amount of overlap between theories of emotional challenge and Sicart's ethical game design. In each case they stress the importance of a player's connection to their surrounding world. Sicart prioritises what he calls the "simulation" over the "state machine", the simulation being a meaningful semantic layer which is informed by a player's cultural surrounds and context but which nonetheless includes the game's formal systems - its "state machine". Emotional challenges as interpreted by Cole et al.[80] and Bopp et al.[81] similarly prioritise the informal aspects of a game's design, in particular narrative tension, player's identification with characters and the emotional exploration of ambiguity and solitude. In each case, it is the player's responsibility to assess their success or failure in these regards rather than receive feedback from the game on the state of some aspect of the formal system, which is hardly surprising given the difficulties of translating such responses into the traditional formal inputs and outputs of computer systems.[82] Similarly, both theories are also dependent upon a

[79] Sicacrt (2013), p78
[80] Cole et al. (2011)
[81] Bopp et al. (2018)
[82] Sicart (2013)

player's responses to a system's state as opposed to their capacities to bring about that state in the first place.

Although at no point does Sicart explicitly frame the experience of ethical play within the context of ethical failures or challenges, there are a number of explicit overlaps between him and Juul. Most notable of these is with the notion of complicity, which he thinks of as being one of the means by which players can engage with a game using moral reasoning.[83] Ethical player failures can perhaps best be understood as cognitive challenges of moral reasoning, with their failures producing emotions such as guilt and regret via a player's complicity. It is reasonable to conclude from this that an ethical failure can produce further emotional challenges, a thought supported by the frequency of ethical challenges prompting strong emotional reactions in Bopp et al. and the same phenomena being seen in Jørgensen.[84]

To Juul's credit, he does discuss these more informal and nebulous kinds of failure to some extent under the heading of the notions of deception and complicity. He could easily argue that those kinds of failure are completely compatible with the broader formal goal of the game being a completable labour focused challenge. This said, it is interesting that he never draws a clear line between these kinds of failures, being duped or becoming complicit, and his own framework for understanding the means by which design can create failure. In many ways it is this very compatibility which allows for such failures to be transient in the first place - the game's completable goal is what allows for the playthrough to exist which creates the formal structure for a transitive failure to exist within. As is, the discussion of deception and complicity seems somewhat poorly integrated into the surrounding discussion on design. Also worth drawing attention to is that the overlap between transient ethical and emotional failures and complicity and deception is certainly not one of complete identity; looking again at one of Juul's own examples, *Shadow of the Colossus* does not engender our feeling of complicity via transitive narrative failures but instead by constructing the game in such a manner as to entwine the completable goal of finishing the game with the fictional events likely to make the player feel guilty and thus complicit.[85]

Ultimately the point I want to make about the theories outlined in *The Art of Failure* is that while I agree that failure can be valuable and that games do offer an environment within which players are protected from failure, the exact extent to which we are protected from the

[83] Sicart (2013) p 21
[84] Bopp et al. (2018) and Jørgensen (2016)
[85] Juul (2013), p.109

negative consequences of failure are up for negotiation and that there are reasons to allow those protections to be relaxed.

Valid and Invalid Failure

Returning to Shamus Young, “Do it again stupid” is a fine article but it doesn’t go beyond providing a well-articulated account of one particular individual’s response to failure invalidating design patterns. As much as I find myself agreeing with Young about this pattern’s tendency to to trivialise and diminish the events it is asking us to repeat, I am reasonably certain he would describe me as one of those players for whom the “Do it again stupid” pattern would appeal to. *Dark Souls*, a game infamous for its stubborn refusal to allow the player to proceed unless they can overcome particularly difficult challenges, is a particular favourite of mine and I can certainly remember times with the game where I found myself repeating sections for rather extended durations. Young correctly points out that such repetition overwhelmingly trends towards undermining both the narrative and mechanical tension of a game, but there is more to consider when analysing such patterns.[86]

There are a number of games which can partially engage in the repetition of the “Do it again stupid” model but still allow for that failure to inform future play. In our example of *Dark Souls*, dying will reset a player back to the bonfire which they previously rested at, not only resetting the progress they had made but also resulting in the player losing all of their souls and humanity, two key resources. However, this death is not forgotten by the game. Returning to the point at which those resources were dropped will see them waiting for you unless you die again, offering an opportunity for the consequences of that failure to be remedied. In this sense, the player is not being asked to repeat an identical section over and over again, their previous failure has added new context to their current play, in many cases increasing rather than decreasing the game’s tension.

I call a failure “validated” by a game when the game treats the failure as an acceptable outcome of the challenge it presented to the player and “invalidated” when it has no way of representing the consequences of that failure within either its fiction or its systems. I propose it as a means of understanding the idea that a player’s failures are as interesting, if not more interesting, than their successes. The validity of failure is not a discrete property but rather one of degrees, and the example cited above in *Dark Souls* is on its own quite a modest example of

[86] Young (2006)

validated failure. More ambitious examples can be found elsewhere, in particular in the games I will analyse below.

Richness and the granularity of challenge under validity

Recall the notion that many, many challenges can emerge from a single challenge or goal which we found in both Adams and Salen and Zimmerman.[87] Depending on how a game is designed this is potentially true of the outcome of challenges as well - if both success and failure are valid outcomes within a single short term goal then that goal can generate new challenges depending upon how the design reacts to the outcome of the challenge in question. Suppose, returning to *Dark Souls*, we fail to recover a large stash of souls and become significantly poorer as a result. Now when we next reach a merchant we no longer have the resources to simply buy everything we wanted and are instead presented with a new cognitive challenge - which of the items we wanted to purchase do we value most?

An important aspect of this to realise is that there are no constraints on what kind of challenge might emerge from any other kind of challenge. In the example from *Dark Souls* above, a failed physical challenge resulted in the generation of a new cognitive challenge. These are different kinds of challenges but they are still both functional challenges, however the causal chain need not even be so confined as this. Consider the results of a failed ethical challenge, where we have been unable to live by our principles within a game's fiction despite sincerely wanting to. As mentioned above, such failures can result in strong emotional reactions the processing of which can form new emotional challenges.[88] Failure to process these might result in further failures as we act out of spite, anger or frustration and these actions in turn might result in, say, the alienation of a character which might dip us right back down into the formal realm as their absence leaves with it an absence of certain abilities available to the player, resulting in yet more challenges for them to fail or succeed at.

The chains of cause and effect above are complex and personal, and if we follow Juul's insights, each failure within such chains contains an important lesson for the player. Invalidating design cuts these causal chains short whenever it occurs, protecting us from the potential negative effects of having to confront our flaws laid out so clearly but simultaneously robbing us of the opportunity to learn and grow from them as well. The complexity of this causal chain of challenges is what I refer to as the *richness* of a design's validation of failure.

[87] Adams (2014) and Salen and Zimmerman (2004)
[88] Bopp et al. (2018)

Formal and informal failure

When designing for validity, the treatment of hard formal, explicit failure states from which the game is simply incapable of proceeding in the face of is extremely important. Examples of such states are player character death, plot critical character death, unplanned loss of plot critical macguffins or anything that leads to a game over screen. These states are some of the easiest means of invalidating a player's failure if they are not handled correctly, but their inclusion does not necessarily exclude a large degree of validity in the player's failures. Recall that formal goals can contextualise play by indicating to the player a desired state for the system to be in and through that generate secondary goals, both formal and informal. The same is true of formal fail states, it's just that their existence contextualises play by indicating the maximally undesirable state for the system to be in. Moves towards and away from each of these states can be thought of as successes and failures, even if such events gain no formal recognition from the system in question.

Some kinds of challenge cannot be directly manifested formally or informally and as such nor can the failures associated with them. Ethical and emotional challenges are always informal, while functional challenges are always formal for instance. This said, the granularity of challenges allows for causal connections between the various forms of challenge and through this a certain amount of conversion from one category over to the other. In the course of trying to be a good ethical player we might refuse the help of a particularly immoral NPC[89] which might result in significant new formal challenges down the line as we lose access to some of the tools and allies made available by the game's formal systems.

The validity of informal challenges is very much dependent upon the player's emotional reactions. In a similar manner to Sicart's theory of an ethical player, there is a certain extent to which a game's capacity to validate failure is dependent upon the player accepting and embracing that aspect of the design. This is no more evident than in the existence of so called "permadeath playthroughs" of games, where despite the existence of respawning or save load cycles after player character death, the player makes a contract with themselves to stop playing that particular save file if they die. This is essentially an informal means of enforcing validating design on a game by creating a very significant consequence to failure which is not present in any formal aspect of the game's design.

[89] NPC: A non-player character in a game is any character that is not controlled by a player. This usually means a character controlled by the computer via predetermined or responsive behaviour, but not necessarily true artificial intelligence.

Narrative failures and complicity

When considering the notion of narrative failures, there is an argument to be made that valid failure is a means of emphasising failures within emotional and ethical challenges at the expense of the more functional challenges. In fact, this may be the primary appeal of validating failure for players. The capacity to potentially generate ethical and emotional challenges from functional challenges is one of its most interesting consequences. *Pyre*, which I will turn my attention to in detail shortly, is particularly adept at this.

Finally, it is worth pointing out some of the drawbacks I can see in designing to validate failure. I mentioned above that valid failure limits some of the benefits pointed out by Juul - the failures are transient and as they cannot be remedied by retrying until we succeed. We do not necessarily get to set things right again and if we do, it is explicitly within the context of us having previously failed. Because this is the feedback the game is forced to provide to us about our failures if it is to remain valid, it is reasonable to assume that player attributions about these failures are more likely to be considered stable.[90] The tendency within a narrative to offer us ethical and emotional challenges, which as Sicart mentions are constituted outside of the formal systems of the game world and embedded into our own ethical principles means that the ability to attribute our failures as specific rather than global is also disrupted. This is in essence a consequence of our complicity within the simulation

In light of this, it is interesting to note that both *Pyre* and *Getting over it*, despite including very robust means of validating failures, go to great lengths to present those failures as acceptable outcomes which players are encouraged to have a variety of emotional responses to, but strongly discouraged to ever feel ashamed of. Validating failure is a means of emphasising failure's impact and because of this my expectation is that validity is a tradeoff between the protection the framing of a game provides to a player's failures and the applicability of the lessons the failure in question has to teach.

Methodology

The developer comments about existing design point to a gap in understanding within player failure while the literature review exhibited likely approaches to better understanding that gap. Below, I will critically analyse three games, each representative of a common approach within existing design - *Pyre, Getting over it with Bennett Foddy* and *Shadow of Mordor* with an eye to their failure structures and the validity that they embody. Validity will be determined by the

[90] Abramson et al. (1978)

capacity of the game to render consequences of the player failing, both directly through the games formal systems as well as through the more informal means constructed by the player, with a particular attention given to determining the richness with which it is validated.

Case Study Details

I chose these three games as they are representative of a number of distinct approaches identified in the literature and currently existing within game design that manage to validate player failure successfully:

1. A branching narrative approach to validating failure is exemplified by *Pyre*.
2. A simulation's approach is represented by *Getting over it with Bennett Foddy*
3. The approach of taking a traditionally invalidating design structure and adding a fictionally suitable trapping to accommodate validation is well represented by player character death within the Nemesis System in *Shadow of Mordor*. This final approach is also an example of a design having dual personality in this regard, as outside of this one system *Shadow of Mordor* constantly resorts to a more traditional invalidating design approach.

While the focus is on these three games, they are considered in the context of being representative of broader trends within design approaches to validating failure based on the methodology above. The method situates their approach to failure within a wider context of other games with similar structures. Analysis of these individual games also clarifies how the lessons they teach can, and in many cases already have, been applied to a wide array of other games.

Approach one: Branching Narratives - Pyre

Overview

Pyre, developed by Supergiant games and released in 2017 for PC and Playstation 4, has a thorough commitment to validating a player's failures, both through the game's narrative and through its mechanics. A novel mixture of a fantasy role playing game and a sports game, the player takes on the role of a character banished from their home in the Commonwealth into a

harsh, mystical purgatory called the Downside for the crime of being literate. As it turns out, the player character's literacy is extremely important to an exile's chances of returning home.

This earns them a position on one of the triumvirates competing in the Rites for the honor of escaping the Downside. During the player's first year they meet Volfred Sandalwood, a fellow exile who was sentenced for the crime of developing a printing press back in the Commonwealth. Sandalwood has been conspiring with other exiles to overthrow the autocratic ruling classes of the Commonwealth by using the Liberation Rites to send back exiles who share his ideals and are able to further these goals. Once the player meets Sandalwood, this effectively becomes the primary completable goal which ultimately contextualises all subsequent play for the remainder of the game.

Mechanics

The game can be broadly divided into the play surrounding the Rites themselves and the narrative and exploratory decisions found when traveling between the Celestial Landmarks where the Rites take place.

Exploration and Social Interaction

Exploration and Social Interaction play out in a similar manner to a text adventure. The journey is represented to the player by a series of simple choices presented through a traditional dialogue screen, which can be about anything from taking a detour to visit a friend of a party member or speeding towards the Landmark to get some practice in before the Rite, to choosing parley with the inhabitants of a region or to simply try and avoid their attention all together. The decisions made when exploring or interacting typically have effects lasting until the next Rite, and essentially add flavour and variety to each experience. These smaller decisions are unlikely to be decisive in the outcome of a Rite, but they can certainly be contributory and may be involved in the attributions to any negative outcome a player experiences. This said, some of these decisions can have lasting consequences, meaning that a player must still consider these decisions carefully. Identifying with their party members is required to make well-reasoned choices at these decision points, as their internal lives can result in them making potentially unexpected decisions.

This is also where a large majority of the game's authored narrative is represented. Party members will react to the events unfolding in front of them and the decisions made, as well as simply make conversation. While a certain amount of characterisation is conveyed through a character's mechanics when partaking in a Rite through their abilities, how they move,

game feel when controlling them and so on, it is through these dialogue sections that we truly get to know them. Characters will interact with both the player character and with each other, creating a complex social web between all nine characters and the player themselves.

Finally, there are plenty of informal decisions to be made which lack any formal consequences, instead focusing on the narrative consequences associated with the decision. These both create room for player expression and also allow for a more thorough characterisation of the various party members through fleshing out how each might respond to certain behaviours from the player. There are many examples of such decisions throughout the game, but perhaps the most well-known is the decision to encourage or discourage the growth of Rukey's mustache, whose only consequence is whether or not this character keeps their mustache but nonetheless the very act of presenting such a decision in the first place goes quite some way to characterising Rukey himself through exploring his insecurities and the means which will reassure him. The challenge within such a context is essentially maximally informal and very dependent upon the player in question, but possible reactions may be regret about not telling the truth to spare his feelings or even regret about telling the truth and not supporting his current choices.

Rites

Broadly speaking, the Rites can be categorised as similar to an isometric real time action game. Two triumvirates face off against each other in a contest to extinguish the other triumvirate's pyre by gathering the celestial orb which appears in the center of the area and either throwing it into the opposing teams pyre or physically carrying it to their pyre and diving in themselves with it. Whoever extinguishes the opposing team's pyre first is considered the winner of the Rite, advancing their chances in the Liberation Rite at the end of the year.

Failure within these Rites can have a number of consequences, not all of which are necessarily negative. Firstly, it is worth pointing out that failure in a Rite does not result in a hard formal fail state; the game simply carries on despite the loss. Secondly, as with many such party based RPGs the player's companions gain experience as they compete in Rites, which can be used to unlock new abilities and upgrades which can dramatically increase their effectiveness during a Rite. Failing a Rite still grants the characters who partake in it experience and the first failure within a Rite for each character results in an Enlightening Lesson, resulting in a rather large experience boost for the characters in question. This kind of design, formally rewarding failure and punishing success or vice versa, has been called a "negative feedback loop" by

Salen and Zimmerman and such loops are found throughout *Pyre's* design.[91] Broadly speaking, negative feedback loops are used in *Pyre* to make both failure and success have muddier and more complex consequences. The outcomes cannot usually be reduced to one single positive or negative evaluation on either a formal or informal axis and the extensive crossover from one form of challenge to another is one of the primary sources of rich validated failure within *Pyre's* design.

From a narrative perspective, these enlightening lessons are also presented by the characters who failed as a disappointing experience but one which they nonetheless see a silver lining in, a perspective that they encourage the player to share about the event which is mechanically supported by the negative feedback loops. This conjunction of formal negative feedback loops and support from the characters also means that while the design's validation of failure does diminish some of the comfort with failure *Pyre* might have engendered by virtue of it being a game, these design and authorial decisions go some way to countering this and encouraging players to engage with the less safe environment it presents.

Liberation Rites are a special class of Rite which occurs at the end of each year. At the beginning of each Liberation Rite both triumvirates anoint one member competing in the Rite and if that triumvirate wins, the anointed member of their team is allowed to return home. For the player, returning a party member home to the Commonwealth is the most efficient means of increasing the success chance of Sandalwood's revolution, which is the explicit, formal goal of game. This has a couple of consequences for the player. First, it means that winning a Liberation Rite means losing a party member, a clear formal drawback to the player and another clear instance of a negative feedback loop. These characters can not only no longer compete alongside you and the other characters in Rites, meaning you lose access to an important asset with the Rites, but their contribution to the narrative essentially ceases also, being limited to receiving a single letter detailing their activities you receive once every cycle and to a kind of mythical recap that they receive at the game's conclusion.

The outcomes of Rites can also be informally important. Party members can encounter bullies or sexually aggressive opponents dehumanising and belittling them. Failure in this context is expanded beyond the mere formal feedback outlined above into something more akin to an ethical or emotional challenge, but one whose resolution is firmly grounded in a formal outcome, namely winning the Rite. This is yet another avenue for richness in a failure, not only have formal challenges expanded out to create a number of new formal and informal

[91] Salen and Zimmerman (2004), p218

challenges, but from a narrative perspective all the characters involved will remember the outcome of the event in question. Winning and losing the Rite here takes on another dimension beyond its formal consequences, it can instead become a question of standing up for an ally.

Party members may also have an emotional investment in victory for their opponents - Pamitha, a companion character, has an estranged sister who was also exiled which she blames Pamitha for. If these characters compete against each other in a Rite, Pamitha may plead with the player to allow her sister to win. This forces the player to weigh the benefits of the group, a combination of their informal emotional connections to party members and the formal desire to succeed within the game's systems, against their personal desire to satisfy the requests of one particular party member. Failing this challenge, say by giving into Pamitha against their better judgement and thus failing an ethical challenge, could have potentially enormous consequences for the future of a game, particularly if the Rite they failed was a Liberation Rite.

The richness of failure to be found within the outcomes of the Rites is *Pyre's* key strength when it comes to the validation of player failures. The outcomes can be caused by an enormous number of different variables, both formal and informal, all of which can be affected by challenges which the player themselves are undergoing. This extreme richness is supported by the game's narrative, and it is the combination of the two that really lends it its power.

Branching Narrative

Pyre's narrative is what is called branching narrative, which is a narrative divided into a series of discrete states of progression which is determined by the player's choices, actions and in some cases the outcomes of particular periods of moment to moment play.[92] Such branches can depart wildly from one another and explore entirely different subplots or introduce new characters which are never seen at all in alternate branches, only to rejoin with each other later on. *Pyre's* narrative is an embedded narrative meaning it is constructed from authored content rather than generated content.[93] Every state that the system can be in involved specific content being produced by Supergiant to represent the details of that state to the player, typically at substantial cost to the developer.[94] This cost tends to rise monotonically[95] thus the developers have a major financial incentive to keep the size of the possibility space to be represented to a

[92] Adams (2014)
[93] Salen and Zimmerman (2004)
[94] Ryan et al. (2015)
[95] Effectively meaning the cost only ever increases.

minimum.[96] This is weighed against the fact that often players tend to praise large narrative possibility spaces that they can have a large degree of influence over.

One of *Pyre's* major strengths as a branching narrative with respect to the validation of failure is that the story does not just branch in response to explicitly presented choices, but also in response to the outcomes of Rites i.e. formal aspects of play. Recall that the degree of validity within a failure is primarily defined through the richness of a particular failure's representation, both in terms of how the player can attribute it and through the ways in which a game represents the failure's consequences by expanding the chain of new challenges in response to that outcome. In moments such as this, there is an interplay between the formal means of challenging the player and the informal representations constructed by the player.

Another benefit of the valid approach to failure within a narrative context - it encourages empathy with the fictional characters of a narrative. Greg Kasavin, creative lead at Supergiant has said "In a zero-sum competition, If I'm against you, I win, and you lose. It's a game that invites you to consider what that means from multiple points of view."[97] *Pyre's* narrative encourages quite a large degree of empathy with certain opponents - Oralech's bitterness is the result of a betrayal denying him his chance at returning home while Dalbert is a valiant competitor who respects his opponents and the outcome of the Rites, regardless of whether the outcome is in his favour. The player's own familiarity with the ethical and emotional challenges that defeat in a Rite can evoke is an excellent means of encouraging empathy with their opponents, yet another means of generating the "narrative tension, identification with characters and the emotional exploration of ambiguity and solitude" which Cole et al. associated with emotional challenge[98] and I have argued is a strong indication of a rich validation of player failure within this paper.

Pyre launched with its own version of an Ironman mode as the only possible option for saving a player's progression - players get a single save file which automatically updates after every major and minor decision. This combined with the absence of any hard formal fail states and the constantly branching narrative which is informed by the outcomes of the Rites effectively ensures that any failure within the game is valid play and can be represented by the game. The absence of hard formal failure states has another very positive effect when placed in the context of a narrative, namely it ensures that the story's pacing is never halted by particularly challenging content. Because stories often have high stakes, such content is usually

[96] Ibid. p.16
[97] Ibid.
[98] Cole et al. (2015)

necessary to keep some degree of cohesion between what the game's narrative is telling the player about how difficult a task is, and how difficult its formal mechanics are telling the player about the difficulty of the task. Presenting failure as a valid outcome of difficult content allows for the cohesion of narrative and formal mechanics to be preserved without potentially sacrificing the progression of the story. When speaking about this problem Greg Kasavin, creative director at Supergiant Games, said the following about how *Pyre's* design attitude towards failure helped resolve this:

> "our narrative goals of having hopefully a tightly written, interesting story that feels personal to the player doesn't have to come into conflict with the gameplay goals of these high stakes competitions that you're getting into."[99]

The potential conflicts between mechanics and narrative is well explored within game studies.[100] That such an elegant solution to one of that conflict's problems can be found by validating a player's failures is a powerful argument in the approach's favour.

Branching Narratives and Validating Failure

The most typical form of invalidating failure found in branching narratives is hard formal failure states and save load cycles. RPGs such as *Mass Effect* allow for convenient saving and loading of the game with little consequence. Playing such games with an eye to valid failure usually requires an informal method of enforcement where the player makes a pact with themselves not to invalidate any of their failures by initiating a save-load cycle and making the same choice in a different manner. In other words, they decide to keep their narrative failures transient, much like the permadeath player, rather than such a restriction being built into the design. This is a very understandable design choice as it allows players the freedom to explore whichever approach they wish. Recent titles *Divinity: Oringinal Sin 2* and *Pillars of Eternity* have also added the a toggleable option to enforce such conditions formally for players who do not want to be exposed to the temptation. The treatment of save-load cycles, while central to how a design validates failure, can enforced formally on a player by player basis very easily through such measures.

On the other hand such games tend to be a little more forgiving of the more narrative focused failures such as allowing companions to be absent from the script - *Mass Effect* even forces players to choose to sacrifice either Ashley Williams or Kaiden Alenko, both of whom

[99] Famularo (2017)
[100] Keogh (2014)

have substantial roles not only later in that game but later on in both the game's subsequent sequels. Ashley and Kaiden are an example of one of the common means of validating failure currently found in narrative design, namely the foldback story.[101] These are branches within the story that largely lead back to the same place in terms of the story's plot despite their initial differences. For the most part, Kaiden and Ashley fill the same roles within the plot as each other, with a few minor differences related to their personal lives. They join and leave the plot at the same points and can take part in the same missions. This allows for the player to make a potentially major decision within the context of the game's fiction without derailing the direction of the plot.

As an example of using a branching narrative for validating failure, *Pyre* is really most notable for the scale of its possibility space and the number of permutations required to be written to account for this scale. While most narratives of this sort might have at most the possibility of one or two specific characters absent by the end of the game, *Pyre* starts to remove its characters from the narrative at the beginning of the first act and all of them can be potentially absent at any point after this. Because of this ***Pyre's*** design approach does nothing to help with the problem of how costly such a complex branching narrative can be to develop, instead serving as an example of how they can effectively be used to incorporate a player's failure into such a narrative.

Approach two, Simulations - Getting Over It with Bennett Foddy

Overview

Getting over it with Bennett Foddy, developed by Bennett Foddy and released for PC, Android and iOS, is a surreal and absurdist title about a man trapped in a pot trying to climb a mountain of prefabricated assets with a Yosemite hammer. While there is no narrative as such, throughout the player's ascent we are treated to Foddy's personal musings on a variety of topics from B culture to trash in the digital age to the connection between a player and designer. Most important for us however are his musings on failure, challenge and frustration. As anyone familiar with the game will know, it has a reputation for supplying failure, challenge and frustration in ample quantities.[102] In particular, there is this early comment from Foddy which

[101] Adams (2014)
[102] Franklin (2018) and Frank (2017).

demonstrates a commitment to validating player failures: “Don’t worry, I’ll save your progress, always. Even your mistakes.”[103]

Mechanics - Authentic Mountain Climbing

From a mechanical perspective the game defies easy classification, but it can perhaps best be described as a challenging 2D platformer with some very novel movement mechanics. Players only direct form of interaction is to direct the position of a small white cursor which is constrained to moving within about arm’s reach of the man in the pot. Moving the mouse or the thumbstick of a controller will move this cursor around this constrained space while the man is programmed to keep the top of his hammer aligned with this cursor to the best of his abilities. The result is a reasonably large measure of control over the character that is nonetheless mediated by the distance between the game object you are directly controlling, the white cursor, and the game object which is your primary means of locomoting the man in the pot about the mountain, the hammer’s head.

There are a number of implications of this control scheme which are worth pointing out. The minor distance between player and their avatar creates a control scheme which gives players just enough control to be able to move about with confidence but just enough distance to make errant inputs all but inevitable. This awkwardness also means that while a player is likely to get significantly better as they play, success and failure will not necessarily be a matter of skill.[104] A large part of the challenge of *Getting over it* is in simply persisting in the face of this rather unfair challenge by videogame standards. *Getting over it* is very focused in this regard, pretty much every aspect of its design is geared towards generating hugely punishing failures while sincerely encouraging players to persist in the face of them and this emotional challenge is at the heart of its design.[105]

Finally, the game contains no hard formal fail state - all failures within the game are informal failures occurring at some stage of the process of trying to climb the mountain. The loss of significant ground by the player is acknowledged minimally, being limited to a few voice lines,

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[103] *Getting over it* (2017)

[104] This is certainly contentious - the game has a speedrunning community some of whom can ascend the mountain in under two minutes. For comparison, my own successful ascent took me ten hours. This said, I would argue that speedrunners are the exception to the rule when compared to the majority of players, with skill levels far in excess of the majority and as such their experiences are not generalisable.

[105] The sincerity of Foddy’s encouragement is somewhat open to interpretation. Franklin (2017) has called them “sassy” for instance, and Foddy himself refers to them as “wisecracks” and “insensitivities”. This said, the comments he passes are genuine human attempts at contextualising and processing failure and suffering; good attempts in my view.

quotes or songs being played. It could be argued that this reward for losing ground could make such events better understood as successes in this context. This could well be true for players who, for instance, set themselves an informal goal of exploring all of the game's content, but given the fact that such failures can erase the entirety of a player's progress earned over hours of play, such rewards are consolation prizes at best.

Environmental design and risk

The environmental design of the mountain is quite interesting for a number of different reasons. Essentially a large pile of random objects Foddy acquired from other developers, its design features many pitfalls and drops which cause the player to fall without any kind of safety net. Such falls can erase hours of progress in an instant, with no means of regaining it other than to simply begin climbing again. The snake is a good example of this, which is situated just before the summit near a particularly difficult and chaotic challenge known as the bucket. Essentially, getting caught on the snake will instantly return the player to the beginning of the game. It is presented by the game as a legitimate option for the player, with Foddy telling us "You'll feel bad if you win, so I put this snake in for you."[106] The chaos and the difficulty of the bucket challenge means we are very likely to end up caught on it despite not wanting to however, massively amplifying the risk of attempting the bucket. The risk is certainly not always this high, some jumps and challenges can potentially be attempted multiple times unless the player fails disastrously, but the player is never far away from some substantial risk capable of resetting all of their progress.

The environment is also designed to deceive and mislead players. For example, the beginning of the game sets up the expectation that all objects you encounter will be static and unmovable. Objects like garbage bags and cardboard boxes simply do not react as you would expect such familiar objects to when you exert force or pressure on them - they do not compress or buckle in the least and their position doesn't change. At one of the more difficult jumps in the early part of the mountain, a coffee cup rests right at the edge of a cliff. After all the earlier conditioning about the environment being static, it would be natural for the player to assume that the coffee cup would also be static and offer a point to hook their hammer around, granting easy purchase on the cliff face in question. This coffee cup is physics enabled rather than static however, and attempting to use it for purchase will almost certainly result in the cup shifting under the pressure of the hammer and the player failing the jump. This contributes to

[106] *Getting over it* (2017)

the feeling of unfairness created by the game's core mechanics and only emphasises this unfairness in the eyes of the player.

Emotional challenge - frustration

Foddy's quotes and the songs played when a player loses significant ground are all reactions or meditations on failure and how to react to or internalise it - there are quotes from William Blake and Shakespeare and almost the entire track list is made up of blues music. The single focused goal and the lack of any real form of player expression outside of trying to achieve it means that the kind of challenges represented by *Getting over it* are equally focused. There are the functional goals of trying to navigate up the mountain, strategising an approach followed by executing that strategy. The failure of the formal challenges here leads to the creation of an emotional challenge in the form of processing the feelings evoked by that failure, but also re-instantiates all the previous functional challenges you overcame to progress to the height you fell from.

Throughout the ascent, Foddy seems to invert the traditional structure of failure seen in extremely difficult and punishing games. We usually think of these games as posing an extremely difficult challenge for the purpose of its being all the sweeter when it is finally achieved - the failures it entails are a necessary consequence of the intensity of the success when we do finally achieve the game's goal, a notion which is supported by the findings of Petralito et al.[107] Foddy on the other hand seems to be of the opposite opinion, the possibility of success is an unfortunate but necessary consequence when we are trying experience that bitter, frustrating failure which is the feeling he really wants to evoke in us. Consider the following lines of dialogue from Foddy's musings:

> "An orange is sweet juicy fruit
> Locked inside a bitter peel
> That's not how I feel about a challenge
> I only want the bitterness.
> It's coffee, it's grapefruit, it's licorice."

And;

[107] Ibid.

"We have the same taste, you and I.
It's not ambition
It's ambition's opposite.
An obdurate mission to taste defeat"[108]

In each case there is an emphasis not on the eventual success but the feeling of failure itself, a sentiment which is echoed by his comments about the snake where he says that he added it because we will "feel bad when we win".[109] The point is not that we will eventually win despite the difficulty of the challenge in front of us, but, echoing Littz and Ramirez,[110] that failing has a meaning independent of success which is worth exploring as an end in itself.

Finally, much like *Pyre* encourages us in the face of valid failure through negative feedback loops and character dialogue, *Getting over it* tries to prepare us for the experiences we are about to undergo and support us when we do fail. Foddy lets us know early that what we are about to go through will be difficult and that he will understand if we have to take a break. When we lose significant progress, we get sincere encouragement. This helps *Getting over it* mitigate the loss of comforting failure that games typically provide but such validating approaches tend to undermine. Bopp et al. found a connection between frustration and reported negative experiences within a game.[111] Foddy's comments during *Getting over it*, my own experience with the game and some critical comments offer a counterpoint to this, particularly Franklin's response where despite having never finished the game he still takes comfort in the thought that all of "the successes, and failures, [of the game] are mine" and that the challenge of the mountain offers a kind of comfort to him nonetheless.[112] Juul seems to think we have a negative experience when we fail a challenge no matter what, but this is not necessarily the case if the challenge is presented to us as one in which there is no shame in being unable to complete. *Getting over it* achieves this in part by being exceptionally specific - the aforementioned focus of the game means players are less likely to attribute global causes to their failures that reflect poorly on them as people rather than just as players. The overwhelming majority of emotional failures in the game, those which typically invade our lives through the constructions we make as players to experience them in the first place, are associated with

[108] *Getting over it* (2017)
[109] Ibid.
[110] Littz and Ramirez (2014)
[111] Bopp et al. (2018)
[112] Franklin (2018)

frustration as opposed to the broad consequences about us associated with ethical failures. This makes such failures significantly more tolerable.

Simulations and validating failure

It should be clear that forcing a player to experience particularly punishing failure was a design goal for Foddy when designing *Getting over it*. I claimed that the means it has of achieving this are very similar to simulation games and in many ways, simulations have quite an easy time of validating failure. Their systems are usually quite ambivalent to the player's successes and failures, simply taking their actions as new input and progressing to the next iteration of the system using the same functions as they did for every other iteration that they've run.

One key difference between *Getting over it* and most other simulation games is the presence of a formal win state, getting to the top of the mountain, alongside a limited degree of player expression when it comes to allowing exploration outside of the context of that goal. Players can either climb the mountain or, if they do not want to do that, they can stop playing the game. While I think this focus and simplicity makes it quite a good case study to make the methods of validating failure typically employed by simulation games explicitly clear, it does mean that it is much more confined when it comes to the process of encouraging informal engagement with the system in a manner suggested by Sicart's constructionist player model.

This is not particularly representative of simulation games in general. *Dwarf Fortress* and *The Sims*, two popular paradigm examples of simulation games, take exactly the opposite approach by providing no hard formal win states but do declare a hard formal fail state in situations when the player has essentially no means of interacting with the system at all. Both these simulations also have much more sophisticated means of interaction for players to explore, leading to significantly more player expression and through this a much more robust means of engaging a player informally. Juul, in an analysis of informal goals within games, has suggested that games without such informal goals provide more room for player expression and even singles out *The Sims* as a paradigm case of such informal goals leading to player expression.[113] In both cases, however, the fundamental means by which they validate failure is similar to *Getting over it* - namely with a large degree of ambivalence on the part of the system to the player's progress or failures and a large reliance on generating informal challenges on the part of the player. *Getting over it* generates these challenges by never guaranteeing any progress towards its one formal completable goal and being very punishing for small missteps.

[113] Juul (2009)

Many other simulations, such as *The Sims* and *Dwarf Fortress* use the lack of any formal win state to encourage such expression and the generation of informal goals, but the fundamental formal ambivalence to any outcomes of the player's challenges remains intact in each case.

Approach three, Fictionalising traditionally invalid failure structures - *Middle Earth: Shadow of Mordor*

Overview

Shadow of Mordor, developed by Monolith Productions, is set in the Mordor of J.R.R. Tolkien's Middle Earth. The player character, Talion, is seeking revenge for the murder of his wife at the hands of the Black Hand of Sauron, a quest which sees him journey into Mordor. He seeks to manipulate the power structure of the Orcs within Sauron's Army, attempting to place those most useful to him in more powerful positions to eventually track down his quarry. For the most part, the game plays out like a typical 3rd person action adventure game with sword fighting, stealth sections and exploration all forming core pillars of the game's moment to moment experience.

Shadow of Mordor's Nemesis System is an example of how validating design patterns can be integrated with more traditional approaches to player failure. Digital games reliance on violence for inspiration in their mechanics and settings is something of an obstacle for the validating design, as it implies that the consequence for failure is essentially maximised for the characters involved - a character's death is not a development of their story, it is the end of it. In a setting full of violent and deadly conflict, death will often be the only reasonable consequence of the confrontation being portrayed by a game. If this is the case, then for the story to continue, any failure within the context of such a conflict will need to be ignored by game.[114] This is a problem for the kind of failure I wanted to explore in this paper as the mechanics created to portray such violence are in all likelihood the most tried and tested mechanics available to any designer or developer. Health bars, damage calculations and a huge variety of combat mechanics from shooting guns, to swinging a sword, to casting a fireball are all established mechanics with plenty of examples for developers to draw upon for inspiration when designing their own mechanics. There is a strong incentive to keep these kinds of mechanics in place for developers because of this and as such a strong incentive to maintain the approaches to failure

[114] I am aware of the irony in my saying that having immortal characters wandering around your setting is somehow "reasonable". This said, one single contrivance with consistent rules is significantly more tolerable than a whole string of minor coincidences and as such I do think the point still stands.

which they encourage and in some cases all but necessitate. It is possible to integrate these traditional mechanics with a more validating design through some clever writing however, and exploring this will be what this analysis tries to achieve.

The Nemesis System in context

The Nemesis System is effectively a simulation of the power structures of Sauron's Army. It is represented by a group of twenty four randomly generated Orc captains of varying power and authority levels ruled over by four randomly generated Orc warlords, whose removal or subversion are the player's ultimate completable goal within the context of the Nemesis System. These captains and warlords all have different traits, personalities and appearances which determines their behaviour, imbuing each with a certain amount of identifiable personality.

The captains are all programed to seek a resource called "power" which they typically achieve through success in events that they hold to impress basic Orc soldiers, such as hunts or by being generous with their alcohol. They can also acquire power by directly challenging another captain's power in duals or other such contests, which can potentially result in a captain's death. The player can influence the outcomes of these events by finding their location and interfering in such a way as to produce the desired outcome such as destroying the alcohol they were about to distribute or lending aid to one of the participants of a dual. This way the player can potentially control which captains accrue power and advance up the ranks of Sauron's Army.

A player failing to achieve any of these goals is also considered a valid outcome by the system. The decisions about which captains to advance and inhibit is made by the player informally in relation to their understanding of the system and these decisions do present them with informal goals about what kind of state that system should be in. But the system itself is ambiguous to the outcome of any particular event within Sauron's Army - it simply rewards the captain in question the power they earned and continues on regardless of the event's specifics. The system can also just resolve these events without any input from the player at all, using the current power level of the Orcs involved to generate a probability for each Orc's chances of victory and then simply randomly generating the outcome from there.

It is worth noting that *Shadow of Mordor* has something of a dual personality when it comes to its approach to validating failure. Within the confines of the open world and the Nemesis System, the game has no hard formal failure states despite the violence inherent in its system and setting. The story missions are another matter, however, which frequently feature hard formal failure states for player character death, plot critical character death, the loss of plot

critical macguffins and squandering opportunities. Because of how the game makes this divide so cleanly between the Nemesis System and the game's plot means that when validating failure it tends to produce the kinds of challenges more associated with formal, functional challenges as opposed to the more informal, emotional and ethical challenges. Player failure does not impact the ultimate direction of the game's plot or any of its authored characters. This said, it is certainly possible that emotional and ethical challenges can be generated from this system - anger and a desire for revenge directed at captains who have defeated the player previously is even formally supported by the game's Vendetta system, where the player's friends who are also playing the game are scanned for particularly powerful captains they struggled with, imported into their own game and presented as a particularly difficult functional challenge.

The immortal protagonist

The game opens with Talion being executed, after which, through some rather convoluted means, his body ends up merged with the spirit of a dead elf. Not only does this provide him with some very powerful magical abilities but more importantly for our purposes it means he can no longer permanently die. Killing him simply results in him being unconscious for a couple of days after which he returns and can function as he always did. This is often irrelevant for scripted missions where the presence of a linear story is combined with, say, a time sensitive objective or a mortal character that requires the player's protection. This means we see typical invalidating failure patterns in hard formal fail states. However, when in the open world or in select scripted missions where the fiction allows them to be effectively infinitely repeatable given the player character's immortality, death and failure is allowed to feed into the Nemesis System as a new kind of input for the simulation. Player character death for instance rewards the Orc in question with a large windfall of power if they are already a captain or an immediate promotion to captain if they are not. After this, the Nemesis System iterates for three in game days before the player is respawned, meaning a relatively large amount of time passes without them being able to affectively influence the outcomes of any of the events happening within the Sauron's Army.

The immortal protagonist is a very common approach to validating failure while retaining some more traditional mechanics. Such protagonists can be found in the *Torment* games and the *Souls* games, both of which use that fictional framing to validate failure to varying degrees. Both *Torment* games are particularly interesting from this perspective, as despite featuring immortal protagonists they still nonetheless feature formal invalidating fail states relating to

character deaths.[115] They are sparse but both settings manage to derive meaning from these hard fail states when set in the context of the more common valid fail states where the player character simply wakes up again after a short period of time has passed. The powers that can permanently kill the Nameless One or the Last Cast Off are rare and truly remarkable in these settings. These hard fail states are used to create a sense that despite their own significant abilities, the player must still navigate these worlds carefully and not take their immortality for granted.

Fictional approaches to validating failure

The core of the fictional approach to validating player failure is that developers can maintain the use of standard approaches to design while validating player failures. Immortal protagonists are the most common forms of achieving this that I can identify, but there are others.

The character Sans in *Undertale* breaks the fourth wall to achieve this, being aware of the player's actions throughout save load cycles, new games and even uninstalls. He will comment on his awareness of this to the player at various points and while the game for the most part allows the player to proceed with the game using such systems as much or as little as they like, Sans' brief comments do add some consequence to a player's attempt to use these systems to avoid the responsibility of failing an ethical challenge. Critic Matt Lees has said that during his first playthrough of the game he killed the character Torial, a kindly mother figure who effectively functions as the game's first boss, and the guilt of this failure of an ethical challenge caused him to restart the game in an attempt to erase this failure.[116] Formally, the game allowed this and for the most part Lees was permitted to play the game in a world where this event had never occurred. Sans' unexpected comments presented him with a consequence to that failure however, one which resulted in being forced to not only confront what he had done but also his attempts to erase his failure, both of which can be considered kinds of ethical or emotional challenges resulting from a previous failure.[117]

While *Far Cry 2* does include regular formal fail states through character death, the buddy system mentioned earlier is another instance of a fictional context being combined with some minor alteration to a hard formal fail state to validate player failure. It functions in a similar manner to *Shadow of Mordor* in that it essentially takes player death as a new input and generates a new state from that input.

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[115] *Torment: Tides of Numenera* (2017) and *Planescape: Torment* (1999).
[116] Matt Lees (2015)
[117] Ibid.

Final Thoughts

Developers have been writing and designing games which validate failure for quite some time. The theories developed thus far for categorising and exploring player failure in general are quite limited but this is particularly true of those associated with the validation of failure. This paper lays out one possible design strategy that can be taken when exploring such design approaches, a strategy grounded in interpreting failure through the lens of challenge. Further exploration is needed to achieve a real understanding of such a complex phenomena.

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