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Glitch Sorting: *Minecraft*, Curation and the Postdigital

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Minecraft (Mojang 2011) is a mysterious game; it seems odd; its pixelated aesthetic seems out of place in a world where digital games are often characterized and judged by incremental increases in verisimilitude. It is not just that it looks odd, weird and blocky; the question is how do you play it? It is not immediately clear. What is clear is that the game is a hit, a hit big enough to be the theme of the *South Park* episode 'Informative Murder Porn'.[1] Naturally, the episode is about how unfamiliar *Minecraft* is for the adults of South Park. Corey Lanskin is hired to teach the adults how to play, he describes it as a game without an objective or goal, that is just about building. From the outside, his description is about right, although the experience of playing *Minecraft* is far from dull. It is a game that keeps on attracting players; by June 2014, nearly 54 million copies had been sold across all platforms. On the PC it has outstripped the sales of *The Sims* (EA Games 1999) franchise to become the biggest-selling PC game of all time (Campbell 2014). Its success brought it and the small Swedish independent company that made it – Stockholm-based Mojang – to the attention of Microsoft, which purchased Mojang and its intellectual property for $2.5 billion on 15 September 2014 (Peckham 2014). In the postdigital age, blocks and pixels are worth serious money.

But it is not just the money that makes *Minecraft* important for the postdigital (see Cramer 2015, this volume); it is an important index of how people engage with media in an endless cycle of collecting, sorting and sharing. The processes of building and discovery associated with the play of *Minecraft* established wider sociality around the game, which is further enabled by social media. This sociality has been encouraged by Mojang in order to enable widespread alpha and beta testing before the official release of the game, and to produce subsequent updates tailored to address the feedback from the community of players. The use of social media to capture oddities such as 'glitches' and share individual moments of gameplay is suggestive of a peculiarly postdigital aesthetic, which is normally found

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so explicitly only in videogame and glitch art. The mode of interacting with *Minecraft* shifts fluidly between play, production and curation. This suggests a link with postdigital art practices that collapses the roles of artist and curator. Curation is an important element of *Minecraft*, both in the game and through social media, and this close connection between play and curation has some interesting consequences for the dominant postdigital aesthetic. The ascendance of curating as a mode of interaction – with games, with art – suggests a strategy of dealing with boredom: sharing stuff disinterestedly, in order to compensate for the years of uncritical enthusiasm for the digital. This chapter first outlines the play and community of *Minecraft*, then examines the connection between the game and various postdigital art movements, before turning to examining the role and significance of curation in the postdigital aesthetic.

The *Minecraft* community

Minecraft's peculiar aesthetic is clearly a reference to early 8-bit graphics. However, this aesthetic is purely visual; the game is operated in a very similar manner to the standard first-person shooter genre established in the early 1990s with *The Return to Castle Wolfenstein* (id Software 1991) and *Doom* (id Software 1993) (see Galloway 2006). Thus, the game differs from the historic 8-bit aesthetic in that it is rendered in three dimensions. This also contributes to the flexible 'feel' of its operation, as the avatar 'Steve' can move around the game environment in a non-linear fashion (see Swink 2009). For *Minecraft* the environment of the game is paramount; each individual game played generates a unique procedurally generated world of a grid of 862 by 862 'blocks'.[2] On some platforms, this initial starting grid will be supplemented infinitely as the world is explored.

Most of the world is composed of blocks of different types of material that can be used by the player. The blocks that compose the grid are randomly generated in 'biomes' which group blocks together according to different kinds of terrain – such as 'ice plain spikes', 'stone beach', 'mushroom island' and 'mesa' – and, importantly, inhabit the blocks with plants, animals and other special features. The biomes also determine the distribution of rarer blocks like iron and diamonds. But how it may be used can vary: (1) it might be useful in its original form, like stone; (2) or, once transformed by going through a process, wood, for example, can be turned into planks or sticks; (3) or, once combined with other material, for example stone and sticks, it can build a stone axe.

The typical play of *Minecraft* is through what is called 'survival mode', which proceeds through the exploration of the freshly generated world, and mining or harvesting various materials in order to build on and make changes to the game environment. While there are also enemies within the world that create an element of peril, overall the game is characterized by

the processes of exploring and gradually transforming the game environment through building and terraforming. Exploration allows the player to map the world and, importantly, discover areas which contain rare resources. Access to particular resources allows players to rebuild the game environment in unique ways. Indeed, the building aspect of the game is so popular that *Minecraft* now has a second mode of play, 'creative mode' which focuses purely on building, with every resource available in unlimited amounts.

These two elements – building and discovery – often drive the sharing and exchange of information between players of *Minecraft*. While each world is unique, they are all procedurally generated from the same algorithm and thus fundamentally share core characteristics which are expressed differently in each player's game. This means that what players have found or built in their game world is still meaningful in another game world. Sharing something that has been discovered may allow others to find the same feature: clay, for example, is only found in shallow water, most commonly in riverbanks, lakes and swamps. Many *Minecraft* worlds will also have unique features, such as lava falls, peculiarly high mountains and floating islands in the sky, which mark distinctions between one game world and another. Sharing how a player has built something may also allow others to follow or mimic the process. The 'how-to build' has become the mainstay of community production of *Minecraft* paratexts, particularly in the case of 'farms', simple machines that automate – to a degree – the production or conversion of materials, which are often demonstrated in screen capture clips shared on YouTube (see Consalvo 2007). The importance of social media and 'Web2.0' technologies for the *Minecraft* community is palpable. YouTube and other video-sharing sites were crucial in the early popularization of the game through 'Let's Play' videos that demonstrated elements of game play through video capture as part of a fan practice dedicated to reviewing new games. Still, for many players, to play *Minecraft* also involves watching these videos and using other social media in order to further develop their techniques for play.

Social media was also integral to the promotion of the game by Mojang, and communication between Mojang and *Minecraft* players. Twitter, in particular, was a valuable tool for Mojang's founder Markus Persson, who, using the handle @notch, quickly amassed over one million followers.[3] Mojang's and Persson's personal use of social media was not limited to promoting the game, but also involved mobilizing and establishing a community of players who contributed to the ongoing development of the game through the alpha and beta phases of the game. This early cohort of *Minecraft* players were able to provide valuable feedback on the game and help to locate glitches and other problems with the software, not simply in terms of the operability of the game, but also in terms of hardware and network compatibility.

In this sense, *Minecraft* is not unique. Community involvement in beta testing has been examined extensively in scholarship on digital games, with scholars divided as to whether it constitutes 'free labour' in the form of

'playbour' (Kücklich 2005) or it is an example of co-creativity, a project which is developed by a community (Banks 2013). Regardless of whether such arrangements are considered creative or exploitative, they are definitely a long-standing practice of the digital games industry, having been traced back to Nintendo's early years operating in the US (Kline et al. 2003). *Minecraft* can be distinguished from these examples, because it is an example of a small and independent digital gaming company building and maintaining a development community from scratch (see Banks 2002, for another example). While many elements contributed to the success that Persson had in building this community – particularly his personal style of engagement – this chapter will argue that the element of continual updates, as Mojang released new updated versions of the game with some regularity, and Persson's responsiveness to fixing the glitches and other problems were key factors.

After going through alpha and beta phases, *Minecraft* was released in November 2011. This did not mean that the game was complete. Mojang continued to add improvements to its mechanics and to add new subtleties to the world-generating algorithm and the various items that could be crafted and constructed from the materials found in the world. Consequently, upgrades were released with some regularity in subsequent years, further increased by the versions developed for individual platforms (Windows, OS, Android, PS3/4, Xbox Live). These ongoing upgrades, and the close lines of communications between Mojang and players, meant that the community of players had a substantial impact on the iterative design of the game by drawing Persson's attention to various flaws or glitches in the programming of the world. Through this process some glitches were eliminated, while others were celebrated and incorporated into the cultures and play of the game. In some cases, game elements that emerged as glitches were reprogrammed into the game as official game elements.

One example is the notorious, yet iconic, Creeper – an enemy 'mob' in the specialized vocabulary of *Minecraft* – which had its origins in a glitch. This coding error was originally an attempt to introduce a pig into the game, but the dimensions of the figure were entered incorrectly. Persson developed the Creeper based on the weird 'creepy' look of the malformed pig (Gesualdi 2011). In this way, part of the historic development of the game and its community is a process of sorting through glitches and eliminating some while celebrating others. In the next section, this process of collecting and classifying glitches in the community and iterative design of *Minecraft* is connected to contemporary post-digital art practices.

Minecraft's post-digital aesthetic

Videogame-based art has an established tradition of celebrating the glitch and pixelated aesthetics. Well, not so much celebrating, rather wallowing in what David Berry (2014) describes as the 'messy state' of the digital

after digitization. Thus, *Minecraft* illustrates the postdigital aesthetic, even though sticklers might not classify it as videogame art. While definitions of videogame art sometimes include the graphic aesthetics of commercial videogames (Stockburger 2007), other definitions eschew including such material, or even videogames 'designed for artistic purposes' (Bittanti 2006, 7). However, *Minecraft* does share a general aesthetic with videogame art, the quality that Tilman Baumgartel has described as the 'defect paradigm' (Baumgartel 2005). His groundbreaking post to the nettime list establishes the centrality of the glitch aesthetic in videogame art. Two of Baumgartel's key practices in videogame art, the 'modification' of existing games using level editors, and 'abstraction', produced by modifying the code of digital games, both involve techniques that deliberately create or exploit glitches. Together, these categories demarcate one of the dominant understandings of game art: the glitch aesthetic, which Peter Krapp describes as art which 'aestheticises the glitch' (Krapp 2011, 88).

The glitch aesthetic may also be understood as part of a larger aesthetic shift towards the postdigital, which is characterized by what Kim Cascone describes as 'the aesthetics of failure'. He writes:

> Indeed, 'failure' has become a prominent aesthetic in many of the arts in the late 20th century, reminding us that our control of technology is an illusion, and revealing digital tools to be only as perfect, precise, and efficient as the humans who build them. New techniques are often discovered by accident or by the failure of an intended technique or experiment.
>
> (Cascone 2000, 13)

Later writers on glitch art endorse the connection between exposing failures in technology and the discovery of new techniques, originally mapped by Cascone (Stearns 2011). The aestheticization of the glitch as a failure of the digital is symptomatic, not only in game art but across contemporary art practice. Glitch artist Rosa Menkman defines 'glitch' as 'an unexpected occurrence, unintended result, or break or disruption in a system' (Menkman 2011, 18). The glitch art movement includes 'a set of audio/visual artistic practices which capture, exploit, and produce glitch artifacts' (Cloninger 2011, 23). Without recourse to this movement or discourse, Persson has developed a game which aestheticizes the glitch within the game. In *Minecraft*, glitches may be celebrated provided they do not impact overmuch on the course of the game, which means that some glitches are tolerated, while others are eliminated through iterative design. Even so, this 'sorting' of glitches into those which are harmless and fun and those which damage the experience of the game suggests that *Minecraft* has a peculiar relationship vis-à-vis the glitch aesthetic, which means that only particular kinds of glitches may be aestheticized.

However, the 'glitch' in glitch art is often more of a metaphor than a technical reality. Menkman (2011, 34) suggests that the glitch should not be automatically understood in a strict technical sense. For example, McCormack (2011, 15) distinguishes between artists who make art using actual glitches and those who reproduce glitch-like aesthetic effects. This demarcation of glitch and the appearance of glitch can also be found in the aesthetic of *Minecraft*. A few glitches – like the Creeper – are redesigned and reworked into the game, and are no longer 'mistakes'. But most other glitches are divided into those which contribute to the atmosphere of the game world, like floating islands and waterfalls appearing out of nowhere that add a distinctly fantastic flavour to the landscape, and harmful glitches, which must be removed because they impact on the operation of the avatar or the correct implementation of crafting or another in-game task.

Glitches, and glitch art, expose the complex algorithmic processes that are underway beneath the assumed user-friendliness of the contemporary interface. They disrupt the illusion of 'transparent' mediation (Bolter and Grusin 1999, 14) by revealing the artifice of the digital software and platform (Menkman 2011, 30–31). Goriunova and Shulgin note:

> A glitch is a singular dysfunctional event that allows insight beyond the customary, omnipresent, and alien computer aesthetics. A glitch is a mess that is a moment, a possibility to glance at software's inner structure, whether it is a mechanism of data compression or HTML code. Although a glitch does not reveal the true functionality of the computer, it shows the ghostly conventionality of the forms by which digital spaces are organized.
>
> (2008, 114)

The glitch recalls the inner structure of the software. In *Minecraft*, this is the algorithm that procedurally generates the grids which constitute the world. Understanding this procedure is a core part of the expert play of *Minecraft*, as this establishes the placement and distribution of vital resources. Knowledge of this algorithm allows players to quickly find desirable resources while exploring and even to predict the presence of particular 'mobs' (mobile game entities). The game's blocky, 8-bit, 'glitchy' aesthetic emphasizes the centrality of the algorithm to play without exposing how the algorithm functions. This close relationship between aesthetic, code and functionality is highlighted by the *Minecraft: Pi* edition for the Raspberry Pi. This credit-card-sized computer was designed for teaching computing and computer coding in British schools. The *Minecraft: Pi* edition allowed players to modify the game environment using text commands in Python programming language (Lomas 2012).

The glitch is not the only notable aesthetic element of *Minecraft*; the game is also referencing the 'blocky' 8-bit aesthetic of 1980s videogames.

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This aesthetic is a recurring motif in independent digital games and in videogame art. *Minecraft* adapts this aesthetic to three dimensions, much like the PlayStation 3 game *3D Dot Game Heroes* (Silicon Studio 2009). Many other independent games from around this time – like *Fez* (Polytron Corporation 2012) and *Terraria* (Re-Logic 2011) –shared this homage to 8-bit through a celebration of pixelization; even major releases like *Super Paper Mario* (Intelligent Systems 2007) gestured to the historic influence of 8-bit. The combination of pixel and glitch is discussed by David Berry and his collaborators in *New Aesthetic, New Anxieties* (2012, 43) as an aesthetic that exposes mediation: 'just as digital technologies and software mediate our experience and engagement with the world, often invisibly, so the "digital" and "software" is itself mediated and made visible through the representational forms of pixelation and glitch'.

The glitches which are found in *Minecraft* are filtered through the community of players and Persson and his colleagues at Mojang in a manner that has parallels with the process of curating. In this context, curating includes not just the practices of the people who produce collections at galleries or museums, but also the everyday curatorial practices of sorting and sharing content on social media, and even media production (see Groys 2010; Potter 2012). Commentators have already linked glitch art practices with the 'Pop Art' movement, through their mutual interest in the 'mistake' and 'popular culture' (Briz 2011, 55–56). But there is also a strong link between glitch art and the more curatorial art practices of the 'found art' or the 'readymade' movements (Menkman 2011, 35–38). Goriunova and Shulgin (2008, 115) note the strange similarity between contemporary glitch art and avant-garde art. However, where glitch art differs from these previous movements is in its concern with the emergent characteristics of popular digital media, and using what would often simply be understood as mistakes, to explore the postdigital potential for popular media. How glitches are shared and celebrated in *Minecraft* illustrates how the curatorial element crucial for understanding the role that glitches have in the game and among the game community.

Social media, boredom and post-digital curation

In this respect, *Minecraft* shares characteristics with yet another permutation of the postdigital, the so-called 'new aesthetic'. This aesthetic, first identified by British designer James Bridle, includes pixels, glitches, errors and computer-augmented vision. Originally

> Pitched as a highly-curated batch of crowdsourced visual and textual content on the commercial microblogging and social networking platform Tumblr, the New Aesthetic was presented as a 'shareable concept'.
>
> (Berry et al. 2012, 11)

The new aesthetic seeks to capture the 'condition of computationality' by appropriating existing content (Berry et al. 2012, 15; see also Paul and Levy 2015, this volume). This drive is congruent with that of glitch art, and to a lesser extent the communities of *Minecraft*, who, in the process of building and shaping their community, produce paratexts that unintentionally reflect the conditions of computationality associated with the glitch aesthetic. Key to Bridle's original conception of the 'new aesthetic' was its *mode of curation*: the Tumblr. It was 'driven by collective emailing, tweeting, posting and commenting', making it an exemplar of network culture artistic movements (Berry et al. 2012, 17).

The close alignment of the new aesthetic and its mode of curation is particularly significant for this discussion of *Minecraft*. The game is particularly shareable, and it is this configuration of play, aesthetics, curation and community which makes *Minecraft* particularly popular across all demographics. 'Curation' is the key here. Players discover, alter, remodel and build the landscapes of their game world, and thereby share them with the other players using that game world. Through various easy-to-use digital production software and social media, the same content can be shared with any *Minecraft* player, or, indeed, interested non-players.[4]

Minecraft did not begin with the built-in social media functions that many triple-A titles have had since the seventh generation of home consoles. These features, called 'trophies' by Sony and 'achievements' by Microsoft, meant that a message would be sent to a player's whole network when a certain point in a game had been reached (see Chun 2015, this volume). The game did eventually incorporate these features in later versions, but social media was core to the game from its very beginning. Social media commentators quickly noticed Persson's successful use of Tumblr and Twitter to cultivate an audience, and the rapid emergence of communities sharing and promoting *Minecraft* on YouTube and Reddit (Silverman 2010). The unique landscapes and construction possibilities were highly shareable, and the use and sharing of social media quickly became a key part of the *Minecraft* experience. Playing the game also involved the use of social media as often as not, as players alternated between wikis, Tumblrs, YouTube clips and the game itself in order to create, recreate, modify and share both in-game objects and landscapes and social media materials.

Glitch art, the new aesthetic, even the everyday practices of *Minecraft* players all suggest a curatorial impulse. This follows from the collapse of the distinction between making and displaying art in the post-Duchamp environment (Groys 2010, 52). This collapse suggests a radical redefinition of the artist and is a dominant characteristic of post-digital art, where core conceptions of artistic practice are challenged through collaboration, participation and interaction (Alexenberg 2011). For art critic Boris Groys, social media curation suggests a new radical unity between arts and audiences, as everyone is now engaged in 'self-design' through social media (2010, 41). He

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argues that the possibility for social networks was opened up 'by the radical, neoavant-garde, conceptual art of the 1960s–1970s' (2010, 117). However, Groys does note a contradiction in this new unity: the roles of the artist and the curator are difficult to reconcile. While artists have a responsibility only to themselves, to explore their individual creations, the curator is responsible to the public (2010, 58). *Minecraft* suggests a mode of reconciliation: play. Play traverses and joins the creative and curatorial in one mode of activity. While, strictly and technically speaking, some activities are operating game software and others are using social media or remixing tools, implementing this distinction does little to capture the experiences of players. Play is, of course, a rather imprecise term, but 'doing' *Minecraft* is not simply the operation of software; it includes a sensibility, based on experience with the game by playing with it, that provides a shared context through which materials made for social media can be evaluated, shared, commented upon and remixed.

Everyday curatorship by *Minecraft* players involves a variety of activities and skills. It moves beyond the writing, production or remixing of content earmarked by scholarly interest in Web2.0 technologies to include arranging, assembling, cataloguing, collecting, distributing and disassembling digital media (Potter 2012, 5, 175). It is an 'active' and 'intentional' process (2012, 9, 175). For educationalist John Potter, this new form of curatorship indicates both the digital literacy skills that are relevant to contemporary media use and – like Groys – how digital media curation reflects the changing conception of the self. He writes:

> What we see in these processes of authoring, collecting, and appropriating is a process in which the unperceived accretions of passing time along with the very many processes of growing up and changing relationships with ourselves, and with others, has become the centerpiece of the project of the self.

> (Potter 2010, 176)

The curatorial dimension of *Minecraft* intersects strongly with how the players construct self-identity. It is flexible enough to provide scope for a wide variety of expressions of self, both within the game and through social media. Potter also argues that curating the self is underpinned by a basic operational understanding of software that allows people – in his case the high-school-aged students of his study – to move between what Lev Manovich calls the 'cultural' and 'computer' layers of software (Potter 2012, 172; see also Manovich and Tifentale 2015, this volume). The way *Minecraft*'s aesthetic of pixels and glitches draws attention to the algorithm, and how playing the game is for many players coming to understand the procedural algorithm that allocates tiles within the world, suggests that the game also highlights the gap between these layers to many players. In fact, while

much of play involves the 'cultural' layer of *Minecraft*, the drive to make use of the algorithm to understand placement of tiles, objects and mobs makes the 'computer' layer important for many players. The Raspberry Pi version of *Minecraft* simply exacerbates this separation.

The simplicity and flexibility of *Minecraft* allow players to be drawn into multiple small activities and easily achieved goals. This allows what initially appears to be a rather simple game to have considerable depth and variety, consequently maintaining players' interest for sustained periods of time. While it continues to attract new players, the earlier recruits continue to play the game and the total number of active accounts is growing, reaching over 100 million on the PC version alone in February 2014 (Reilly 2014). Demonstrably, for millions, playing *Minecraft* is not boring; it keeps boredom at bay. At first this is through the production of new necessities, like the need to find trees and sheep to build a bed to sleep in before night falls. But, once this initial necessity is fulfilled, the game provides multiple projects for the curious, ranging from the building of machines to the exploration of an endless procedurally generated world (see Keogh 2013). McKenzie Wark (2006, 70) argues that this is the role of digital games, to capture boredom:

> Play outside of work found itself captured by the rise of the digital game, which responds to the boredom of the player with endless rounds of repetition, level after level of difference as more of the same.
>
> (2006, 16)

His analysis of the game *State of Emergency* (VIS Games 2002) describes how games operate to displace boredom by constantly 'making-over' the game (Wark 2006, 161). The game changes the terms of play constantly, by opening up new spaces to the player and changing the level of control the player has over that space. *Minecraft* offers players a great deal of space and control over that space, which gives it a quantitatively different capacity to alleviate boredom. However, for Wark, boredom has a critical capacity, as it is the starting point for understanding the game as an algorithm (2006, 33). He uses the concept of 'trifling' to conceptualize this new relationship with the algorithm (see Suits 1978); the trifler 'struggles to escape boredom and produce difference' (Wark 2006, 40). By integrating the algorithm into the game – as demonstrated by the Raspberry Pi – *Minecraft* produces a game in which the difference between playing and trifling is erased. There is no point at which the limit of the game to alleviate boredom is reached, and the player starts trifling with the algorithm because the algorithm is already a part of play.

The curatorial aspect of *Minecraft*'s integration into social media also serves to alleviate boredom. Even if one becomes bored with the game and its permutations, there are books and wikis to read, YouTube videos to watch, memes to follow, even Lego sets to construct. This manner of digital play and

curatorship on the edge of boredom suggests a fatigue, not just in the digital, but in the constant need to present oneself, to construct and curate a digital identity. As Heidegger (2001, 109) asks, 'Was I what was boring myself?' With *Minecraft*, there is no need to worry; the boredom of the self needs never be confronted, due to the plethora of game and community activities which extend across everyday devices and palpably into offline spaces through an abundance of paratexts and merchandising.

Notes

1. The episode 'Informative Murder Porn' was aired on Comedy Central on 2 October 2013. It is the second episode of season 17.
2. Grid size changes from platform to platform.
3. As of 1 September 2014 the exact number was 1,745,915.
4. *Minecraft* is one of very few games to have a dedicated 'spectator' mode, allowing people to participate by watching, without having to play.

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