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Computer-generated pornography and convergence: Animation and algorithms as new digital desire

Rebecca Saunders

Introduction

Filmic pornography, video games and comic book ‘universes’ have long been intertwined. Sex has been central to the content and critique of games, from early products such as Custer’s Revenge to major contemporary series like Grand Theft Auto, The Witcher (2007) and Mass Effect (2007) (Brown, 2010, 2018; Wysocki, 2015). Filmic pornography, in its guise as a feature-length and largely heteronormative film genre developing from the 1970s onward, and typified contemporarily with the output of major studios such as Brazzers and Digital Playground, has similarly well-established associations with gamification. Products of 1980s such as Mystique’s Beat ‘Em and Eat ‘Em, where the player controls pixelated feminized blobs who catch sperm in their mouths, have developed online into the ‘free’ mini games which abound at sites like Playporngames.com and Sexyfuckgames.com. The somatic plug-ins of Fleshlights and Kirroos and the touchscreen capabilities of so many digital devices blur too the voyeurism of digital sexual activities with the tactility of game play: ‘Tap Here to Slip Your Dick in Her Ass’ (Gamcore.com, n.d.), and so on. Major porn companies like Vivid Entertainment and Wicked also produce filmic versions of the Marvel Comics franchises, the ‘Comixxx’ (Screenrush.com) of Thor, Deadpool, The Avengers and so on, themselves also all produced as video games. Such convergences of the technologies and cultures of porn, games, comics and

relatedly themes of fantasy and science-fiction, clearly constitute strategic transmedia initiatives that are corporately driven.

However, this same blending of pornography and video game content can be seen developing online over the last decade, on a more user-generated and subcultural level. Proffering aesthetic trends and intended functions which differ significantly from corporate-led pornographic convergences, what is defined here as user-generated, computer-generated pornography (UCGP), operates on the margins of economic and cultural legitimacy. UCGP circulates in a seedy tangle of imageboards, free sites and subscription platforms like Tumblr. Much of it is made through ripping licensed game and television content, and a subversive rhetoric abounds: one site, Lewdgamer.com, sports the tag line ‘Taking the Internet from Behind’ (Lewdgamer.com); NaughtyMachinima describes itself as ‘where video games go to be bad’ (<https://www.naughtymachinima.com/>); HentaiHeaven declares that ‘Everything Else is Irrelevant’ (<http://hentaihaven.org/>). These spaces constitute important new sites of convergence not only in their techno-cultural syntheses but in the grass-roots nature of their production. They typify what Henry Jenkins and Mark Deuze describe as the shifting ‘flow of media content’ so that it is now ‘shaped as much by decisions made in teenagers’ bedrooms as it is by decisions made in corporate boardrooms’ (2008: 7). Particularly in their toying with the strictly policed content produced by the games industry, UCGP embodies the cultural and economically subversive possibilities of user-driven practises of convergence. Where Susanna Paasonen has focused on the sexually perverted nature of ‘monster toon porn’ (2017) and Anna Madill has explored the history of digital and gamified erotic manga (2018), this article is the first to explore UCGP as a site of convergence which subverts the media industries from which it draws. Because the content is most prominently concerned with the pornography, both in

terms of sexual explicitness and in terms of the heteronormative attitudes and aesthetics associated with those dominant, mainstream (Maina, 2014; Smith, 2014) production companies mentioned above, this article analyses in particular how hard-core pornography is subverted through its appropriation and transformation in UCGP, while acknowledging the continuing impact of heteronormative porn culture on these user-made and ostensibly subversive online spaces. It considers in particular how the dominant function of hard-core pornography, namely to arouse the consumer through vicarious access to material bodies, is undermined in UCGP, and how this attenuation particularly of the imperative of veracity and corporeality speaks to fundamental changes in pornographic film as a result of its interpolation in digital culture. Examples are drawn principally from two sites which epitomize the DIY, communicative and subcultural aspect of UCGP: Rule34 and Tumblr, with their content also then circulated on major free porn sites like Pornhub and XTube. This article considers not only, however, how this quasi-covert, communitarian phenomenon undoes the hegemony of sanctioned video game and porn companies, but how it exemplifies the tension between ludic and labour-intensive digital practises, and relatedly between the avant-garde and commercial aspects of convergence. It therefore also considers the types of content that are circulated on economized platforms such as Patreon and Deviant Art, with section three focusing on more professionalized content creation, with individuals producing dedicated websites and blogs to sell their content.

Section One

UCGP is useless: subverting games and hardcore

Two of the biggest and first UCGP imageboards are danbooru, Gelbooru (n.d.) and Rule34. Here, video game characters like Lara Croft (Tomb Raider, 1996–2015) and Elizabeth (Bioshock, 2007–2013) are recast in sexually explicit contexts that would otherwise ‘place the game[s] outside of regulatory systems’ (Krzywinska, 2015: 111). They are joined by anime creations and beloved cartoon characters and figures from childhood stories: Winnie the Pooh becomes a muscle-bound sexual aggressor with a penis that towers above the trees of One Hundred Acre Wood and Homer Simpson rapes his daughter. These sites demonstrate the capacity of computer-generated content to surpass the extremes sought by pornographic film. Another site which describes itself as ‘the premier online community for 3D erotica’, allows viewers to adjust their ‘Violence Level’ to find material that focuses on amputation, torture or ‘acts causing death’ (Renderotica.com). The painterly medium of computer-generated pornography allows for infinitely more violent, incestuous and paedophilic content to be created while remaining legal (Mills, 2015). In an article introducing computer-generated porn over 10 years ago, for example, WIRED magazine asks elatedly:

Imagine what you could do with erotic entertainment if you weren’t bound by the laws of physics [the limitations of gravity, proportion, body mass] or 18 U.S.C. 2257 [...] the federal law that requires [...] [age] records on every performer appearing in an adult film. (Wired.com, 2006)

The transgressive possibilities of animated content, as noted in the introduction, are not only sexual but economic. The ripping of commercial game code and

copyrighted characters from television programmes has anti-authoritarian associations. Michael Parkes describes the perception of piracy involving video games in particular as considered a laudable ‘revenge on the industry’ (Parkes, 2012: 28). Sebastian Deterding similarly feels that the hyper-economization of the games industry has fostered a particular desire to dismantle its hierarchical structures of ownership. He predicts that ‘[g]amers will revolt’ against the ‘instrumentalization of games’:

They will reassert their autonomy and playfulness in gaming the system and in seeking out new, yet unknown spaces and forms of nonfunctionalized [...] resistance [...] into the places and practices they feel ‘belong to them’ and retreat into new, ‘hard-core’ places and practices. (Deterding and Walz, 2014: 47, 51, 52).

UCGP is the ultimate demonstration of this revolt: in its creation by users, its hard-core content and its pirating of established video game characters and scenarios, it rejects top-down media ownership. The parodic status of UCGP, with its ludicrous amplifications of common porn film features such as penetration and money shots (Attwood, 2007; Edelan, 2015) and its bizarre sexual reimaginings of familiar video games, further undercuts the media from which it draws. This drive to undermine the values and meanings of hegemonic media is a well-established facet of usercreated content. Cultural theorist Bethany Klein describe the connections between ‘vibrant userled online communit[ies]’ circulating pirated material and a digital culture of ‘parody, pastiche and caricature’ (Klein et al., 2012: 12), which describes precisely the irreverent, anti-authoritarian world of UCGP. The porousness of video game culture is often emphasized. Games theorist James Newman describes contemporary video games, for example, as ‘co-created

[malleable] media [...] [where] rules [are] to be bent and broken', by players as well as developers (Newman, 2013: 140). However, this article considers that UCGP does more than parodically augment legitimate games: rather, in its rejection of the very notion of playability itself and the purpose of games as success through progression, it undermines the fundamental functions and meanings of game play.

The filmic homages to video games circulating between Tumblr and Pornhub are unplayable. In the place of player agency and interactivity is an entirely spectatorial, passive mode of engagement. In one 15-min scene ripped from the series *Elder Scrolls*, the vampiric female protagonist alternates between having sex with and being raped by a frost troll in a repetitive series of pornographic sexual numbers (Williams, 1999: 72) that build to nothing: that is, there is no discernible beginning or end, or sense of progression towards a game objective or a money shot, the scantest and most ubiquitous diegetic structure of heteronormative porn films (Williams, 1999: 101). The content does not function as a game. The viewer cannot affect the movements of the female protagonist or influence how she interacts with the troll and that absence of player agency is made starkly apparent. Various trappings of interactivity and game progression are maintained in a gesture towards functional gameplay: metrics denoting energy levels are displayed at the top of the screen, sometimes randomly changing; speech options appear as if the female figure is embedded in a broader narrative; the protagonist turns left and right and waits at various junctures as if agentially connected to a player who can control her. This disconnect between the notion of directed gameplay and the inability of the user to do anything but watch, produces a frustration – what Daniel Johnson calls 'disobedient games' (2015: 595) – at the game failing to properly respond which designers seek precisely to avoid. That UCGP revels in such anti-functionality is part of its rejection of the fundamental utility of gameplay. Instead

of the purposeful, directed play of either game play or porn consumption, UCGP proffers a properly carnivalesque mode of play that celebrates its uselessness.

Just as UCGP eliminates the interactive logic of gaming, so it dispenses with the temporal logic that operates at the level of both individual game and industry. These creations are generally characterized by a ludicrous shortness, often lasting less than a minute or a few seconds as gifs. They can therefore only be consumed in extremely brief and truncated flashes that make little sense in relation to the games they reference. Circulating in non-sequential chaos, these nonsensical imagistic bursts lampoon the objective-driven progression through levels and sequels that motivates gameplay, as well as the industry's consumptive and economized cycles of hard- and software production. What Elizabeth Freeman terms 'gaming culture's [...] chrononormative ideas about 'the value and meaning of time' (2010: 2) is expressive of a broader temporized rhetoric of technological progress which the brevity and futility of UCGP eschews. The content of sites such as Rule34 proffer a profound pointlessness instead, bending technological capabilities not to drive improvements – the modding culture of gaming communities, for example, seeks to improve the functionality of gameplay for others or feeds into company-led innovations as a 'rationally accountable creativity' (Deterding and Walz, 2014: 47) – but to produce a celebrated antifunctionality. One of the most consistent aspects of UCGP, an otherwise largely scattered and heterogenous genre, is its triumphant uselessness, a feature which undermines both the forward momentum of video game play and the economic impetus of its industry.

UCGP similarly troubles the functionality of pornography. Where perhaps the most unifying feature of contemporary pornographic content from various genres – mainstream, alt, queer, heteronormative and so on – is the desire to arouse the

viewer, the brevity and design of UCGP troubles its potential use as a masturbatory aid. Any excitement produced in these subcultural spaces is droll and self-conscious.

UCGP's subversion of the live-action porn from which it grows occurs less on the economic grounds of copyright infringement – the porn industry has already been fundamentally altered by the dominance of user-generated material (Mowlabocus, 2010; Paasonen, 2013; Tarrant, 2016) – and more through UCGP's aesthetic expression of its peripheral status. The aforementioned brevity and, for the most part, flagrantly crude design of UCGP troubles its capacity to arouse, thus rejecting too the functionality of arousal customarily appended to pornographic content (Lacquer, 2003: 282). Figures move jerkily and through sudden shifts in colour saturation; clumsily made splines mean buttocks, breasts and thighs jut out at jarring angles; aspect ratios are warped; Russian, Japanese and Hungarian voices float in untranslated incoherence across clips. The majority of the content that circulates across the aforementioned imageboards and free porn sites typify what Francesco Casetti terms the 'poor images' of the digital era, 'made in a hurry [...] fuzzy, pixelated [...] and incessantly in transit from one platform [and] [...] format to another' (Casetti and Somaini, 2013: 420). Laine Nooney and Laura Portwood-Stacer similarly talk of the 'Internet Ugly' that develops when 'there are no gates to keep 'unpolished [...] "unpublishable" works out of the public view' (2014: 251). UCGP's part in this trend towards the imagistically imperfect produces a comic effect that distances the content from earnest attempts at arousal and compounds its studied uselessness. In one modified clip from the video game *Skyrim*, for example, a scene between characters Maramal and Serana on their wedding night unfolds. After some rewritten dialogue that demonstrates UCGP's subversive pleasure in compelling familiar characters to behave with unconventional rudeness

– ‘I want you to suck my cock’, ‘My mouth is watering at the thought’, and so on. (Pornhub, https://www.pornhub.com/view_video.php?view_key%4907126014, 2018) – the most prominent element of the film is its poor construction. When Maramal’s penis appears, it is a shapeless, unfinished grey blob that lifts and descends in a single, ludicrous movement as if swinging on a hinge. Serana moves suddenly, exorcist-like, from a standing position in front of her husband, to hovering, impossibly, around his waist. A motorboarding scene has been inserted, but each time Serana shakes her chest in Maramal’s face, her jagged breasts disappear inside his head. Such awkward gestural discontinuities are common in UCGP. Where film theorist Bill Schaffer explains that a “‘standardised’ rate of movement’ in animation ‘allows the “world-creating hand of the animator” to ‘disappear[] between frames’ (2008: 202), the clunkiness of UCGP brings construction always to the forefront of the viewer’s consciousness. This attenuates the capacity of UCGP to function as a serious tool for sexual arousal and renders amusement one of the principle draws of the content. UCGP typifies what digital culture theorist Olga Goriunova describes as the ‘absurd, simple, humorous’ effect of the ‘aesthetic [of] [...] new media idiocy’, that presents a ‘playful [...] worthless creativity’ (2012: 224, 228, 231). UCGP’s troubling of pornographic film’s functionality as a masturbatory aid demonstrates again its celebration of the ludicrously useless.

The parodic de-emphasizing of arousal as an objective is not the only way in which the ugliness of UCGP undermines its live filmic counterpart. Its poor design also serves to deconstruct the veracity so crucial to the historical and generic development of pornographic film (Williams, 1999: 31). Traditionally, film, and pornographic film especially, seeks to erase the presence of the medium; the apparatus of film making must be hidden to proffer transparency. Animation

similarly seeks to erase its status as a medium. Jay Bolter and Richard Grusin describe, for example, the programmers' objective in designing 3D and virtual reality content, to remove any 'traces of their presence in order to give the program the greatest possible autonomy [...] to diminish and ultimately to deny the mediating presence of the computer and its interface' (1999: 119, 23). In place of a seamless convergence, such as one would find in the immersive virtual reality sex on sites such as VRGirlz, or in Vivid's studio-quality comic book parodies, UCGP proffers an overtly 'failed' convergence. UCGP foregrounds its constructedness and mistakes. Indeed, its poor construction becomes one of its most prominent features.

This emphasis on construction serves as an aesthetic rejection of the sleek, corporate perfection of studio-made pornography. As Henry Jenkins (2006a, 2006b) points out, the 'ragged [...] style' of DIY productions like UCGP constitute a 'direct challenge to the polished look of a big-budget screen production' (2006: 566). The ugliness of UCGP proffers a greater authenticity, not only on the basis of its grass-roots production. Its foregrounded aesthetic failures also refuses the illusion of transparency that defines pornography across all its generic variations: from its nascent forms of 'meat shots' and stag films, to its feature-length development in the 1970s and to its diversifications from the late 20th century into alternative, amateur and gonzo (Williams, 1999; Attwood, 2010; Moorman, 2010; Smith, 2018, Stella, 2016). The crudeness of UCGP fundamentally undermines the truth claims that fundamentally define pornography's broad generic purpose. The inadequate attempts at photorealism and naturalistic movement create gaps in the hegemony of pornographic representations. They constitute what Jihoon Kim calls 'glitches', 'break[s] from an expected or conventional flow of information or meaning' (2016: 108) in digital communication systems, that fracture the perceptual wholeness pornographic film has established over the last 50 years: the

perception that, whether in the corporeal materiality of gonzo or the politicized authenticity associated with queer and trans porn, pornography can provide access to the 'real' of sex. The errors and hesitations in UCGP open up a space for critique. By foregrounding their representative medium, they trouble pornographic representation more broadly. Bolter and Grusin describe precisely with regard to hypermediacy, stating that when we have learned to 'look through' representational conventions which come to offer a 'static, monocular view', the presence of the medium 'mak[es] [the viewer] hyper-conscious of our act of seeing' (1999: 272, 73, 21). The crudity of UCGP denaturalizes the most dominant conventions of live-action pornographic film: its transparency and truth. The inaccuracies of UCGP bring those conventions to the surface and denaturalize the fundamental basis of the live-action pornography from which it draws. The following section explores this rupture of the pornographic real in more detail, and considers how UCGP signals the attenuation of pornography's materiality in a digital environment.

Section Two

UCGP: better than the real thing

As touched on in the previous section, pornographic film, in its various generic forms, has been founded on the conception of film and photography as providing a mechanical reproduction of reality. Echoing theorists like Béla Bala'zs and Siegfried Kracauer, André Bazin (1967) states seminally of film that 'between the originating object and its reproduction there intervenes only [...] an impassive lens'. Pornographic film, from the stag films of the 1920s to the full-length feature films of the 1970s, is the raucy successor to this Bazinian ideal: in its thematic focus on hard-core sexual interaction, its medicalized genital close ups (Saunders, 2016), and its generic function to arouse through vicarious access to sexual interaction, hardcore pornography epitomizes the belief in the indexical power of film. Developments in amateur porn, web cams and gonzo constitute new stylistic strategies that promise an unproblematically transparent access to the real. Pornographic film does not present itself as a construction but as a particular visual type of experience with bodies themselves. The 'objects' of bodies, to use Jean Mitry's semiological terminology, are understood to 'signify themselves', so that what is captured on screen is not a sign, but the bodies themselves, as 'living expression[s]' (Mitry, 2000: 32). This closeness to a sexual event, the capacity for an unmediated 'direct, causal and existential bond between sign and object' (Morgan, 2010: 106), is the basis of what pornographic film sells: vicarious access to the truth of a sexual event. Pornography's signifying function has been erased, and the visual medium has come to be understood as reality or at least that the ways in which it is not 'real' or realistic are of no importance. Its truthfulness derives in part from the explicit nature of its content, pornographic film seeming

to display the unvarnished truth of sexual interaction as opposed to its euphemistic representations in other media forms. Hardcore pornography's lingering shots of the consummately physical – come, saliva, female ejaculate and so on – epitomize what Laura Marks calls those objects understood as 'too material to be encoded' (Marks, 2003: 38). From its generic development from the 1970s, pornographic film has developed a perception of its bodily objects of representation as so irretrievably physical that they surpass any representational construction. Such 'invisibil[ity] is the "first strategy" in the construction of "The Real"' (Marks, 2003: 38). As the discussion of aesthetic crudity demonstrates, UCGP proffers a very different real, one based not on the materiality of bodies but on the foregrounded materiality of the digital medium.

As the foregrounded constructedness of UCGP exposes the physicality of digital animation, what Kim describes as the 'inner structure and functionality of [...] digital codes [and algorithms] that lie beneath the digital image' (2016: 109, 116), it locates its veracity in showing the act of making: making the clips themselves, the very process of convergence, is the real in which UCGP is interested. UCGP's proffering of an entirely different notion of materiality speaks to the broader attenuation of celluloid film's privileged hold on indexicality. The starkly algorithmic aesthetic of these subcultural creations, gestures towards the ways in which all film is now embedded in digital technologies of simulation and image manipulation. UCGP lays bare the fact that, as Kim declares, 'digital technologies transform the filmic image into a data object subject to the manipulation of codes and algorithmic procedures of postproduction and display'. (Kim, 2016: 143)

This receding of the real constitutes an obvious paradox for the function, aesthetics and technologies of pornographic film, as a consummately physical visual genre historically delineated by its indexical link to real bodies. UCGP

demonstrates the fundamental change in what we look at pornography to see. Evidentiary proof of a veracious sexual event no longer forms the foundational drive of pornographic film. Instead, UCGP demonstrates as it constructs, the erotic pull of the blatantly artificial. Themes and aesthetics of virtuality form one of the most dominant aspects of UCGP: it draws both from the science fiction themes common to major video game series like *Final Fantasy* and *Bioshock* and from the cyberpunk themes and aesthetics of the 1980s (Extropy, 1988; Mondo, 2000). Sites such as Hot3DFucking.com, TheFree3DPorn.com and 3DGirlfriends.com, which present a mixture of user-created material and somewhat more professionally made content from unnamed sources, are populated by unearthly figures, what Tiziana Terranova calls the 'postbiological' (Terranova, 2000a: 273). Bodies shine with an eerie unreality: body parts are often studded with metal plates that gesture towards some future amalgamation of human and machine or human and network. In ways reminiscent of some of the most prominent contemporary filmic representations of digital bodies, like Alex Garland's *Ava* (*Ex Machina*, 2015) and Villeneuve's *Joi* (*Blade Runner 2049*, 2017), women's bodies are often partially constituted by vaporous emptiness, flashing electronic signals replacing the hyperphysical fleshiness common to pornographic film. Skin is incandescent, glowing with a futuristic blue or white hue and glassy eyes stare out from the screen, unseeing. The sexual interactions between the consistently recognizably female figures and an endless parade of aliens and mutants take place on the metallic floors of space ships or in apocalyptic wastelands of glass and steel. What Terranova calls the 'wired variety' of the post-human body that develops within digital culture, 'one thoroughly invaded and colonized by invisible technologies' (Terranova, 2000: 269), is a staple of UCGP: clips often show female bodies penetrated by semi-cognizant metal tubes that seem to be physical manifestations of the digital itself,

or becoming completely pervaded by light, disappearing ecstatically into the white ether of the virtual. In theme and form, UCGP proffers the ‘matterless [visual] signs’ of post-industrial culture, not just ‘separat[ed] from the material vehicle which carries them’ (Lister, 2003: 467), but dispensing with the need for any reference to materiality, their libidinal draw deriving from their very departure from the customary corporeality of the pornographic. That these images and films are presented as a type of pornography, circulating and advertised on mainstream porn sites alongside live-action content, testifies to the diminishing contemporary significance of physicality (Balsamo, 2000: 495; Gilder, 1989: 17; Lupton, 2000: 479). Lev Manovich gestures towards the devaluing of physicality as a result of the digitization of cinema with his references to terms like ‘organics’ and ‘soft fuzzies’ (2016: 245) to describe real bodies in film. The advertising of professional computer-generated pornography on premium and free sites as the next exciting innovation within the genre demonstrates the hackneyed status of pornography featuring real bodies. Just as Paul Virilio describes the way photography, by ‘multiplying “proofs” of reality, [...] exhaust[s] [reality]’ (1994: 22), so UCGP is a symptom of and solution to the tedium of ordinary, ‘real’ porn. In his book *The Virtual Life of Film*, David Rodowick describes this function of computer-generated imagery more broadly, as ‘cod[ing] itself as contemporary, spectacular, and future-oriented; a sign of the new to bolster sagging audience members’ (2007: 5). As porn studio revenue continues to be severely affected by the explosion of free online content, as well as a Virilion imagistic overload, UCGP offers novelty precisely through its rejection of ‘real’ bodies.

Fittingly, then, Susanna Paasonen writes of the ‘affectless bodies’ (2017: 10) of computergenerated porn. Yet crucially, UCGP is not without somatic impact. Despite their governing rationale of parody and absurdity, the extensive social

element of these subcultural spaces testifies to the arousing function UCGP can also serve. A VICE reviewer of computer-generated porn games wonders at how anyone could be turned on by female figures who are so ‘mad deep in the uncanny valley’ (Winkie, 2013); doubt as to the masturbatory function of particularly the crude and incredibly short UCGP scenes is inevitable. Sites such as Rule34 are particularly useful in providing an insight into how users engage with UCGP, the interactions between users constituting more content than the images and gifs themselves. While users demonstrate an abiding pleasure in the irreverent ludicrousness of the content, they also frequently articulate an arousal that derives from the capacity to relate to and expand the diegetic worlds of fond, familiar characters in previously unsanctioned, pornographic ways. Thus, one user says of the Xenoblade Chronicles (Nintendo, 2010–2015) ‘I’ve always had the feeling that Pyra and Mythra are virgins. I just don’t think they had the time or even much of an interest in having a relationship before they met Rex’. Another says of DC Comics Teen Titans (DC Comics, 2016) ‘I would love to be fucked by Beat Boy’s elephant cock and let him eat me out’, (Rule34, <https://rule34.xxx/index.php?page¼comment&s¼list#>, 2018). ‘Mmm this is the real Bowser I want. Rule me <3’ (Rule34, <https://rule34.xxx/index.php?page¼comment&s¼list&pid¼20>, 2018), another user says of New Super Mario Bros’ turtle (Nintendo, 2012). The capacity for sexual engagement with the patently artificial is the basis of UCGP’s eroticism. The notion of mastery, with regard to the ability to animate a character to behave in ways beyond their ‘will’ is frequently asserted as part of the thrill of UCGP: ‘Good doggo, swallow that nut’, a user says of Isabelle, a cutesy puppy from Nintendo’s Animal Crossing series (2012); ‘Good girl, Ahri’ another user says ‘to’ a penetrated Ahri from League of Legends (Riot Games, 2009) (Rule 34, <https://rule34.xxx/index.php?page¼comment&s¼list&pid¼10>, 2018). These

comments demonstrate the libidinal draw of the patently artificial and unreal, where it is precisely the animated fictitiousness of UCGP which provides its somewhat tongue-in-cheek excitation. Users often explicitly acknowledge this, with comments such as ‘at least no need for protection with her’ (Rule 34, <https://rule34.xxx/index.php?page¼comment&s¼list&pid¼10>, 2018) and ‘this is awesome and adorable xD makes me wish I was a drawing;P’(Rule 34, <https://rule34.xxx/index.php?page¼comment&s¼list&pid¼90>, 2018). On problematic content regarding the young age of some of the represented female figures, one user states: ‘The moment you’re masturbating [...] and realize cartoon characters don’t have age because they’re imaginary’ (Rule 34, <https://rule34.xxx/index.php?page¼comment&s¼list&pid¼220>, 2018). Where real body porn bases arousal on transparent access to the bodily objects themselves, the conspicuous construction of UCGP shifts the libidinal investment to the medium. Bolter and Grusin explain:

[T]he logic of hypermediacy is to represent the desire for transparent immediacy by sublimating it, by turning it into a fascination with the medium [.] striv[ing] to make the viewer acknowledge the medium as a medium and to delight in that acknowledgement. (Bolter and Grusin, 1999: 122, 41)

Thus, users frequently invest the affective intensity of their arousal in the act of construction itself: ‘I want a sequel with urethral and tummy expansion’; ‘AMAZING! Wish someone would make one with sounds as well! loving your animations’ (Rule 34 2018) and so on. They exchange views on the animator’s choices of bodily proportions, skin colours, and perspective and how closely the user-generated content approximates the ‘real’ characters, libidinally engaging, in

part, with the capabilities and limits of the medium. Pornography's development into such computer-generated forms demonstrates that its particular mode of visual arousal is no longer necessarily expected to derive from representations of real sexual interaction and that there exists a new erotic imperative to engage with the digital animated medium itself.

UCGP further deconstructs the hegemonic realness of live-action pornography by replicating the iconographies and tropes of live-action porn in its context of immateriality and obvious constructedness. UCGP employs the same perspectives, sexual numbers and types of emotional interaction made normative in heteronormative, mainstream, live-action pornography. Although the potential erotic force of UCGP does not derive from an external relationship to the real, part of its meaning undoubtedly relies on its internal references to its 'real' filmic counterpart. The viewer's ability to decode and enjoy the often extremely bizarre content of UCGP, relies on and assumes a familiarity with the iconographies and attitudes of live-action porn. Live-action, mainstream and heteronormative pornography has deemed representational elements such as: penetration as desirous movement; sexual interaction as a power dichotomy; androcentric heteronormativity; and genital visibility, to be those vital to the visual representation of sex and to the concomitant incitement of desire in the viewer. In their attempts to amuse, stimulate or at the very least, to be understood, UCGP replicates these elements, with its consistent strong emphasis on female passivity, fear and humiliation, and on masculine supremacy and violence, its representation of female bodies splayed to allow for genital visibility, and so on. In *Film Language: A Semiotics of Cinema* Christian Metz asserts that '[a] representation bearing too few allusions to reality does not have sufficient indicative force to give body to its fictions' (1974: 13). The conventions of pornographic film remain a

necessary reference point to endow UCGP, in fleeting and thoroughly decontextualized clips, with sufficient context to mean. UCGP is a remediation of porn, not of sex and its signs of the sexual derive not from the referent of real bodies, but from the signs of the sexual referent variously constructed in live-action pornography.

UCGP displays sex, as it has come to be represented with increasing stability in heteronormative pornography, in its abstraction. Stripped of diegetic contextualization and the ostensible spontaneity of human interaction, these components of pornography which make and maintain its generic veracity, become starkly visible, and as these elements are distilled and clarified, they become more vulnerable to critique. Simply through their simulated approximations of heteronormative pornography's formal elements, UCGP denaturalizes what have become well-established signifiers of the real. Where the porn theorist Thomas Susanka describes live-action pornography as using a 'style of depiction' that presents its representations as 'taken, rather than made', (Susanka, 2012: 106) UCGP re-establishes pornography's fundamental 'made-ness'. Its formalizations of pornographic sex lay bare the most fundamental mechanisms of its construction that have become so naturalized. Drawing attention to the filmic devices that construct the supposed 'truth' of bodies and sexual interaction, sees 'realism' in Fredric Jameson terms 'stand unmasked as a [...] realism-effect, the reality it purported to deconceal falling at once into the sheerest representation and illusion' (2007: 158). UCGP's formalization and imitation of mainstream pornography's filmic features illuminates the unreality of what it copies: in the multiple senses of the need to construct sex in visual terms the filmic apparatus can provide, in its manipulation of the actors' behaviour in order to produce particular constructed signs of eroticism, and in the partiality and troubled nature of any 'real' such

representations can ever provide. Live-action pornography is revealed to be not the unbiased byproduct of the camera's mechanical transference of the real, but a set of highly ideologically constructed conventions: UCGP's formalization of the elements of heteronormative pornographic film shows how, as media theorist Joost van Loon puts it, '[i]ndexical causality is ordered, engineered [and] cultivated [...] by virtue of deliberate signification programmes' (van Loon, 2007: 73). This denaturalization of pornographic realism is dependent on UCGP as a convergent phenomenon. It is the DIY aesthetic of these clips and gifs which bring the questions of construction to the fore; and it is the very fact of their appropriation of the dominant narratives of pornographic media which invite critique. As Casetti states, media 'hybridizations' like UCGP foster a 'reflective consciousness of what media are and do', with the adoption of 'poor images' in particular allowing film to become a "“thought machine,” just as it was able to become an “illusion machine” by working in “high definition”" (Casetti and Somaini, 2013: 420).

UCGP's melding of pornography with video game content in particular enacts a further deconstruction of the pornographic real. The gaming context in which these short films are placed speaks to the growing ludification of live-action pornography itself. Just as the clips reflect the repetitious actions of gameplay, starkly revealed in the basic and highly repetitive loops of UCGP, so they gesture towards the increasingly repetitive structure of their live filmic counterpart. Contemporary, mainstream pornography is shown to be embedded in the casualization of games and, like developments in app, mini and freemium games, is exposed as similarly basic and temporally compressed, designed like its online game corollaries to be 'consumed in seconds or minutes' (Grainge, 2011: 2) in users' 'dead time' (Evans, 2016: 569). Porn's predictable simplicity demonstrates its development too within what digital theorist Mercedes Bunz calls the

'infantiliz[ation [of] [digital] interfaces' (2015: 197): in place of psychological realism and sexual maturity, UCGP's convergence with video games clarifies pornography's growing childishness and its ludic brutality. The way in which UCGP's anti-diegetic brevity strips away any meaning but the algorithmic patterns of penetration, clarifies the mechanistic nature of bodily interaction in their liveaction corollary. The real bodies of mainstream and heteronormative hardcore are shown to interact with a rapidity and emotional automation that bears far more resemblance to avatars than to naturalistic sexual interaction. The manufactured figures of UCGP, moving with the predictable speed of coded algorithms, are therefore shown to be not oppositional to but on a continuum with the bodies of live-action porn. Through the foregrounded gamification of UCGP, the artificiality of live-action porn is further clarified and its hegemonic veracity further undermined.

Section Three

Dark play is hard work

This deconstruction of the very foundations of transparent veracity and physicality of live-action porn relies, as this article has shown, on the rudimentary aesthetics of UCGP to open up spaces for critique. However, the broad church of UCGP also contains a more professional seam of creation, with an imperative towards photorealistic standards at odds with the clunky, parodic aesthetic considered in the previous sections. The work on sites such as NicoleHeat.com and Erogenesis.com feature more coherent series of painstakingly produced work, which also requires consideration. This type of UCGP tends to favour still images, in order to avoid the uncanny artificiality that emerges when images are animated into movement. They do not seek humorous and parodic convergences with video games, but aim instead for what cinema theorist David Rodowick terms ‘perfect photographic credibility’ (2007: 101). Although this may seem a paradoxical drive within content often defined by its imagistic inadequacies, there is a reciprocal relationship between the simultaneous rejection of and aspiration for ‘graphic fidelity’ (Krzywinska, 2015: 107). The exaggerated artificiality and obvious ‘made-ness’ of much UCGP works to incite the desire for realism, fostering a pleasurable oscillation between absurd and parodic representations and earnest and impressive feats of naturalistic bodily representations. Returning to Bolter and Grusin, they similarly describe a ‘contradictory imperative’ in digital culture ‘for immediacy and hypermediacy [...] between looking at and looking through’, (Bolter and Grusin, 1999: 5, 41) so that the blatant constructedness of UCGP considered in the previous sections begets and expresses the desire, particularly

potent in pornography, for transparency and truthfulness. Economist David Boyle describes this paradox as follows:

Far from reducing the importance of the real [...] the prevalence of simulation [...] further reemphasise[s] and intensif[ies] a preoccupation with locating the authentic [...] the ubiquitous hype of virtual life [...] has left artists with an absolute fascination with real bodies and body fluid. (2004: 128)

Anatomical precision and signs of real physicality can therefore be sought in some UCGP. With startling naturalism, UCGP can represent individual beads of sweat, the texture of skin, strands of hair, the rumples in clothing and the minute complexities of shadow and light. Images proffer incredible approximations of the tactility of real pornographic intercourse: the subtle colour changes within one vein of a penis are depicted, or miniscule goosebumps on a shaved vulva. Spittle and come fall in gooey drips, reflections of tiny windows and camera rigs suspended in each perfectly drawn droplet. When these images circulate on free, mainstream porn sites like Xhamster and Redtube, it is often impossible to tell them apart from still images of real bodies.

In one sense, such verisimilitude aims to erase the medium. In place of the starkly DIY aesthetics explored in the previous sections, these images seek to efface their status as made images. However, their perfection simultaneously exalts in the capabilities of digital making. The way in which its painterly, surface status seems to disappear, functioning instead as a window onto the real object itself, produces a concomitant celebration of the designer's skill and therefore a renewed, marvelling awareness at the medium. The surface of the image, the fact of its existence, rather than an original bodily referent, remains the focus of this type of UCGP, not this time for its representational failures, but for its success.

Here, it is the extent to which technology can approach the real and erase itself as a medium that is eroticized. The response of users demonstrates this different libidinal engagement with the technologies of digital animation, where arousal derives simultaneously from the image's capacity to approach the real and yet always the thrilled awareness that it is not. One user states 'My god, those feet.drawn so well.AUTO HARD ON!' ('Comments', Rule34xxx); another, 'I love the art! Would totally lick the juice off of her'; and another '[t]he quality. .just. .wow. I would give an embarrassing amount for an hour long video of these two' ('Comments', Rule34xxx). A number of sites describe themselves as superior to real body porn precisely in their dual status as created and verisimilar: Adult Empire declares that 'No real female can be compared to these exciting fully 3D babes who can drive you mad with stunning beauty'. (Adult-Empire.com); 3D Erotic Art proclaims similarly: 'Horny and seductive! You can find anything you like in females drawn to perfection. They are better than real ones!'. (3DEroticArt.com). A greater value is bestowed on images which can exhibit both indexicality and the power of digital technologies to completely invent.

This aspect of UCGP gestures towards the need to critique this subcultural phenomenon in relation to its ostensible subversion of top-down pornographic iconographies. Just as these types of computer-generated porn seek to 'optimiz[e] rather than challeng[e] [...] the norms of depictive credibility', (Rodowick, 2007: 103) so they can uncritically replicate the dominant conventions that have developed particularly in heteronormative pornography over the last 50 years. UCGP's aforementioned reliance on and replication of heteronormative, live-action porn's culturally dominant modes of representing sex – its gender dynamics, notions of the taboo, types of interpersonal interaction the viewer is expected to find arousing, and so on – troubles this digital subculture's ostensible subversive

status. In its replication of live-action porn's formal elements, together with its imperative of verisimilitude, UCGP functions as much to uncritically perpetuate mainstream porn's ideologies as it does to excavate them.

The image albums of Nicole Heat for example, resemble rotoscoped stills rendered from preexisting porn films, precisely replicating the indexicality of live-action porn. Heat draws her images to mimic the same shots and perspectives as cinematographic porn, alternating, for example, between genital close up, close up of the female figure's face and wide shots; perspectivally, the images imply the existence of a camera, sex acts drawn as if they could only be 'observed' from certain fixed positions. With this verisimilitude comes a reproduction too of the entrenched heteronormativity of mainstream live-action porn. The women, who often look identical to specific porn stars, are highly feminized and consistently placed in positions of subservience and victimhood. Each image depicts a predictable heteronormative sexual number: multiple deep-throat blow jobs, no oral sex performed on the female figure, penetration from various gymnastic angles and facial come shot. Such replications of the perspectival conventions and frequently misogynistic representations of heteronormative porn, bolster its iconographic stability. UCGP deepens the status of heteronormative porn as singular and right: these modes of representation become an unchallengeable grammar of sexual representation, rather than just one, particular language of filmic construction. Jameson describes the realism effect considered earlier as:

[S]omehow governed by all of [the genres] together [...] by their implicit generic relationship to each other. The unreal – the not-said, the repressed – is then what falls outside of the system as a whole and finds no place in it. (2007: 175–176)

In the coexistence of live action and computer-animated pornography, the ‘not-said’ is the possibility that there are modes of representing the sexual that differ radically from these dominant conventions. This construction of a singular paradigm of the real of pornographic sex across animated and live-action genres, impacts inevitably on the perceived real of sex itself, a set of practises and ideologies that are also historically and culturally conscribed. To draw on Jameson once more:

[R]ealism and its specific narrative forms construct their world by programming their readers; by training them in new habits and practices [...] which also preside over what will now come to be thought of as reality. Indeed, such narratives must ultimately produce that very category of Reality itself, of reference and of the referent, of the real, of the ‘objective’ or ‘external’ world. (Jameson, 2007: 166)

Even in its often absurd unreality, then, UCGP’s reliance on dominant porn conventions strengthens a particular pornographic idea of sex as the only real of sex, and the possibility of a sex that exists outside of these entrenched representational strategies is further disappeared. Despite its subcultural associations and its parodic subversions, that UCGP attempts to copy the attitudinal and representational conventions of heteronormative ‘real’ porn, when unbounded new ways of representing sex are potentialized by animation technologies, testifies to the looming influence of industry-driven media content. In his audience research project *The Nationwide Audience*, David Morley points out: ‘the power of viewers to reinterpret meanings is hardly equivalent to the discursive power of centralized media institutions to construct the texts which the viewer then interprets’ (1980: 31). While UCGP appears as an absurd and

subversive subculture, then, it relies upon hegemonic pornographic culture, ultimately working as a sort of homage to the dominant attitudes and aesthetics in heteronormative porn. As Olga Goriunova asserts '[t]here is not always and not even often a crystallization of the subversive through the idiotic' (Goriunova, 2012: 232). UCGP's crudeness and the subcultural status of its digital environments disguises the ways in which it works to strengthen the norms of heteronormative, liveaction porn, not through vertical business strategies, but through organic, peer-to-peer play.

UCGP's rootedness in the hegemonic iconographies of porn gesture too towards its creators' interpolation in economic productivity. Like a huge range of other online activities that involve users contributing time and effort to create digital content and communities, making UCGP constitutes both free (Terranova, 2000: 36) and immaterial forms of labour (Lazzarato, 1996). The majority of users make their content for fun, and so expect no payment for the sites to which they contribute, and in shoring up the authority of pornography as a singular iconographic system of sexual representation, making UCGP also forms the 'cultural content', of, in this case, the commodity of 'the' porn film (Lazzarato, 1996: 132). Jenkins and Deuze have identified the contradictory economic status of convergence: it is both 'a top-down corporate-driven process and a bottom-up consumer- driven process' and user-generated content 'exists both within and outside commercial contexts' (Jenkins and Deuze, 2008, 6–7). In emphasizing the construction process, UCGP draws attention to the creators themselves and to the expertise, training and time they must provide in order to create this content. As analogue recording techniques are thought to provide an umbilical cord between the real world and film (Kracauer, 1960: 71), so the materiality of UCGP fosters an indexical relationship between the film and its creator. Where O'Donnell

describes software as ‘a forgotten aspect of what game development looks like’ (2011: 279), the glitches of UCGP denaturalize the software and expose the difficulties of digital animation that embed it in labour-intensive practices associated with the games industry and software development. Erogenesis is a good example of UCGP’s embeddedness in economized online networks, the mysteriously named ‘Ero’ selling his pornographic 3D comic books on Patreon and Deviant Art, and the explicit addons he has designed for users to make their UCGP on sites such as Renderosity and Content Paradise. Ero provides regular updates on the process of designing his comics, the link between UCGP production and demanding work patterns of computer and gaming industries made starkly apparent. His blog posts employ a language of professional software development, with titles such as ‘Progress Report’ and ‘TaB Tester Complete. In Testing’. He describes the software modifications he made in order to create ‘Lali’, his first pornographic comic book, in similarly formal, corporate language: ‘I developed “The Lali System” for DAZ’s Victoria 4 figure [...] Lali’s Bits hit the market in 2013 [...] Currently I am developing [...] “Project E” that is replacing my V4 system’ (Erogenesis.blogspot.com). Such language gestures towards Ero’s tangential connections to software and game development, and his perception of his comics as serious, industry-adjacent work. Describing himself as working as a ‘C# .NET software developer’, alongside work as a geologist, musician and wildlife photographer, he frequently references the difficulty of finding the time to create what he calls ‘computer generated erotics’, and the pressure that comes from not wanting to let consumers down, often berating himself for not working harder and apologizing to his consumers. He has placed a ‘Progress Bar’ on the margin of almost every page of his extensive blog that charts in urgent oranges and reds how far from completion his various projects are and how much he has fallen short

of his timetabled objectives. Posts which emphasize the exhaustive work of designing his 3D comics are common. In one entitled ‘Think positive!’ he states:

Seriously I hope I can get Lali’s Bits up and running by Christmas, I just never expected it to be such a bloody mission. I do have someone helping me but he’s also very busy with other shit. I can code but usually there’s enough information, software, and official documentation for me to learn complex stuff. I managed to write a whole form generation application in SQL Server without any prior knowledge of the system in two weeks. I taught myself C# and ended up #1 programmer in my surveying department in half a year. (Erogenesis.blogspot)

The huge amount of work involved in creating his material is clear, another post consisting of pages and pages of lists of all the vaginal morphs it was necessary for him to create in order to make just one part of what he enigmatically labels ‘Project E’: ‘vaginal distension, open genital fold in, labia majora closed and thick, inner labia fat/fan out/long/fan wide/fan top’ and so on (‘Project Evolution: Wrapping Up’, Erogenesis.blogspot.com). The sexual subversion and grassroots production of UCGP does not, therefore, place it outside the productive systems either of productive platforms like Patreon or of the processes of software development profoundly intertwined with the games industry. The 3D animation software Ero uses, such as Poser and DAZ Studio, have a dual status as both professional and amateur tools. Daz’s website quotes famous digital film artist Ron Mendell who describes the software as ‘a go-to solution on Captain America, Thor and Iron Man’ (Daz), as well as defining itself as a creative tool for amateurs. UCGP’s use of these tools, as well as the intensive work patterns required to produce the material, demonstrates its place within the thoroughly mainstream and precarious working world of the cultural and media industries. UCGP

demonstrates, then, what Jenkins and Deuze describe as the ‘dialectical production process’ of media industries, whereby individuals and economized digital platforms and sites generate both ‘unconventional new media formulas [and] hybrid genres’ and legitimate, ‘linear’ products (2008: 8, 9). UCGP is not only a bizarre and subcultural digital phenomenon; it demonstrates the way in which the forms of economic and cultural productivity at work in 21st-century porn culture encompass and neutralize attempts at subversion and innovation.

Conclusion

In both its technologies and aesthetics, UCGP demonstrates the ‘global digital culture [...] of remix’ (Jenkins and Deuze, 2008: 7), combining video game content, anime and cartoons with hardcore pornography. This article demonstrates the ways in which this largely user-generated digital subculture deconstructs the heteronormative, studio-produced, live-action pornography from which it draws. These animated films proffer a pornographic formalism that highlights the conditions of pornography’s construction and troubles the transparent veracity on which the film genre is historically founded. It is both the cause and the consequence too of an affective and libidinal investment not in the physicality of bodies, but in an eroticized artificiality, and in the capacities of digital animation itself. However, the production of UCGP is embedded simultaneously in the anti-productive play of gaming, hacking and porn consumption, and in the intensive, neo-liberal labour practises associated with free labour and the games industry. Though UCGP testifies to the ‘new configurations of media power’ that have emerged through ‘convergence of the cultures of production and consumption’

(Jenkins and Deuze, 2008: 7), its parodic crudeness opening up the potential for critique, ultimately its replication of dominant pornographic conventions demonstrates its cultural and economic links to hegemonic media narratives of sexual culture.

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