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EXTENDED PLAY

Hands on with 40 years of English amusement arcades

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Amusement arcades are historically viewed as an unflattering venue where deviancy and dereliction run as free as the youth who populate them (see e.g. Fisher 1995; Huff and Collinson 1987). Popular books of the time reflect this, from the tongue-in-cheek narrative interpretation of Rubin's *Defending the Galaxy* (1982), to Amis's graphic – both visually and linguistically – *Invasion of the Space Invaders* (1982), to Sudnow's cold-war bad-trip of *Breakout* addiction *Pilgrim in the Microworld* (1983). Each documents and reinforces the popular notion of arcades as arenas where, as distinguished game designer Al Alcorn observes, "naughty things might happen" (Alcorn 2014, 25). The end result was a moral panic, which found its political manifestation in George Foulkes' infamous campaign to limit "the menace of video games" (Haddon 1988, 60), via the United Kingdom parliament in the *Control of Space Invaders (and other electronic games) Bill* (Foulkes 1981, cc287). This popular and political attention piqued the interest of sociologists, psychologists, and criminologists. The videogame amusement arcade became a favoured and fevered site of academic study, which, to the delight of writers and the panic of politicians and parents reinforced the notion that arcades were a locus of dubious, unethical, and perhaps even illegal behaviour. A large-scale study by the Centre for Leisure Research in the UK found that 80% of 2739 respondents disagreed that amusement arcades provided young people with a safe place to go, while 59% of the same cohort agreed that young people should be banned from amusement arcades (Centre for Leisure Research 1990). Another UK survey of 789 respondents showed that over 20% of those who frequented amusement arcades had been involved in a fight and nearly a fifth "had been approached by someone who makes them feel uncomfortable2 (Huxley and Carroll 1992). The common perception of amusement arcades being a site of moral panic reflects much of the contemporaneous work undertaken by Birmingham's Centre for Contemporary Cultural Studies. The social, economic and political

habitus of amusement arcades places them geographically and culturally underground, or in what Young specifically terms the "subterranean world of play" (Young, 2005).

The perception of the underground space of the amusement arcade is predicated on their being at once open to the public, but requiring special and separate codes of operation and access, evidenced in the language (e.g. 'credit'; 'high score'; 'extra life'), cultural idiosyncrasies (e.g. placing money in full view on cabinets to have dibs on the next game) and bodily *habitus* (as Newman humorously recalls from an episode of *Seinfeld*, to succeed at *Pac-Man* requires the 'perfect combination of Mountain Dew and Mozzarella . . . just the right amount of grease on the joystick' (Newman 2016, 8)). These niceties are reflected in other shadowy, dark, and imperceptible places where subcultures abound, such as strip-clubs, snooker-halls, and strip-malls: spaces simultaneously symptomatic of the dangers of time-wasting, cash-sapping, leisure consumption, and traditionally linked to organized crime (see Trapunski 1979, 104).

As the literature outlined above demonstrates, videogames have a long, tiresome relationship with moral outrage. From the abhorrent story of a boy, who, while being sexually abused by a clergyman, spent the money that he was given on arcade games (Amis 1982, 29–30) through the shameful machinations of Gamergate and into the contemporary shill of lootboxes in top-tier releases, it can seem as if videogames achieve recognition only when fomenting moral panic. Now that videogames are a mature medium, moral panic is courted by some developers and utilized for its marketing advantages. The knowing satire of Rockstar's *Grand Theft Auto* franchise impels the mortal hand-wringing of politicians. Their kneejerk responses, including first amendment debates, class action lawsuits, and prohibition has the contradictory effect of adding gravitas to the 'trivial' position of games, while trivializing the grave business of politics. Yet most games do not achieve this level of notoriety in the wider public consciousness. Games continue to be viewed as a medium, which, in common with the subterranean world of play, are somehow positioned 'beneath' popular culture (Southern 2001, 2). As its starting point this chapter draws on historical literature from the dawn amusement arcades' in Victorian England. It is shown, from their inception, that while games were viewed by commentators as a subculture to be looked down upon, they were also an arena of innovation and a manifestation of changing working and leisure conditions seen at the time. These are features that extend into further discussion concerning the work and play that is required to maintain videogame machines' social and cultural status, particularly in their maintenance and curation. Rather than being machines of the past that occupy a separate space and time in a glass cabinet in a museum, it is shown that amusement arcades and particularly those who interact with them are living histories that can only be properly experienced and engaged by being fully hands on with them. To demonstrate this in practice, the second part of the chapter presents primary data gathered through interviews and participant observation of those who have been hands on in the construction of the histories of videogames in amusement arcades over the past 40 years. These

are individuals who have played, worked, and owned amusement arcades during this time. The techniques, technologies, financial, and social capital are evidenced in a passion shown in their practice ensuring that the past lives on into the future through those who are hands on in the present.

Historical forces of amusement arcades

Videogames continue to occupy a position in the nether regions of popular culture that is as prevalent in the twenty-first century domestic realm of shiny consoles and consumer electronics as it was in the 1970s and 1980s fug of the neon-night of amusement arcades. This suggests that there are historical forces attached to videogames, and to games more generally, which mean that they are at best a waste of time and at worst corrupting the moral integrity of individuals within society. As with any study of the histories of videogames, this cannot be limited to the game itself, or the technology that gives rise to it, but is instead contingent on a confluence of factors, including social policy, human geography, and demographics. Bank holidays, inaugurated in the United Kingdom in 1872, were the first of many revisions of social policy that led to a "huge growth in demand, both for leisure time, and for activities to fill that leisure time" (Downs 2010, 56). Modest budgets and short holidays precluded long-distance travel, and so working class people from urban centres like Bolton and Manchester began to take holidays nearby, in places like Blackpool and Fleetwood. These trips offered holidaymakers the opportunity to 'experience a world set-apart from the everyday' (Downs 2010, 57) in nascent amusement arcades. This separateness has become an aspect central to the sociological investigation of games, which are seen invariably as a space separated from the everyday (see e.g. Caillois 2001; Huizinga 1970; Goffman 1961; Salen and Zimmerman 2005). Encouraged by the opportunities presented by the working class who finally had money to spend and the wherewithal to spend it, seaside entrepreneurs invested in new amusement attractions and increased the quality of existing ones. The result was a very early form of consumption operating as a function of production, certainly for those who previously were only economically valued due to their labour power. As Young notes, the values attached to subterranean activity meant that "hedonism [was] closely tied to productivity" (Young 2005, 150). The impression this left on the histories of record of the time shows how negatively this was viewed by the refined classes in Victorian Britain. From their perspective, the working classes debauched themselves to within an inch of their labour-intensive usefulness, all the while revelling in the revulsion of

> Crowded, noisy, vulgar, unbuttoned, uninhibited enjoyment, for better or worse. They epitomised carnival, saturnalia, the temporary triumph of the periphery over the core, the world turned upside down, the suspension of dignity and inhibitions, the temporary reversal of the civilising process, the reign of gluttony, extravagance and licentiousness.
>
> (Walton cited in Downs 2010, 56)

As seen in research on home coding and cracking in the 1980s (Wasiak 2013; Swalwell 2008) games shift traditional boundaries of work and play, through the introduction of new technologies, so that the "world of leisure and work are intimately related" (Young 2005, 151). Indeed, home coding drew on this extensively, becoming a cottage industry which briefly achieved the Marxist ideal of utopia between work and play. Yet for Young, originally writing in 1971, there was a tension, played out in the overlapping spheres of production and consumption which suggested that the 'subterranean values' of hedonism, autonomy and activities performed for their own sake were becoming more prevalent in subsections of society. These subsections generated subcultures, which had greater truck with the pleasure principle of play than the grind of the work ethic. A focus on immediate gratification, rather than delaying to an undefined future was the aim of the subjects of Young's study. These same ideals of subterranean values of play, of inverting norms in pursuit of hedonism, are as evident in the trips the working class took to the amusement arcade in the nineteenth century as to those in the late twentieth century. History suggests that the relationship between work and leisure is tightly entwined with the emergence and predominance of amusement arcades as a primary leisure activity.

Play as work

The symbiotic relationship between work and leisure is a phenomenon which is brought into sharp focus when considering the hands on work required to maintain amusement arcade machines. Whether fruit machines, pinball, shovellers (also known as penny drop) or videogames, the 'decay of gaming hardware [. . .] is a serious and potentially difficult to manage issue' (Newman 2012, 14). Some attempts have been made to preserve the past in a representation of working order by institutions such as museums, shifting the focus of videogames away from the incessant 'logic of the upgrade' (Newman 2012, 37), a defining feature of modern consumer electronics and specifically videogames. As part of the 'Game On' project, the Barbican museum in London collected, curated, and presented a host of videogames from the past, which then toured Europe, Asia, and America (Guins 2014, 281). The hands on nature of such exhibitions, where museum-goers are able to play the games on offer, is central to their success. Yet it removes the machines from their original context of the 'naughty place' of the amusement arcade and therefore inevitably cleanses the experience. By law and custom, smoking, eating, loud music, and neon are not promoted in the creaking halls of the Barbican. The sight and site of a *Ridge Racer* (1993) deluxe sit-down cabinet, in full working order with a notice next to it denoting its year of release and the reasons for its historical importance at once demonstrates how quickly past technologies age, while locating past videogames in a time and space when they were a new form of media (Newman 2012, 86–87). Meanwhile, as Guins observes, the placement of a *Space Invaders* (1978) cabinet on a pedestal behind glass in the Strong Museum of Play in New York detaches

the videogame further from its original location and illuminates how the "historical conditions, context and experiences of coin-op arcade video games often go unremarked" (Guins 2014, 132).

In keeping with the historical literature around arcades, keeping the history of arcades rubs up against the same problems as any other curatorial activity. The original context is erased as the extinct dinosaurs move from the plains into the Great Halls. As Castells highlights, this is both a strength and a weakness of museums, which are "systems for the storage, processing and transmission of potentially interactive cultural messages, in and for a determined social context" (Castells 2001, 4). This social context is by economic and cultural necessity mostly – but not exclusively – the general public who consume cultural messages in the space and time of the museum. In the case of those seeking out games, these will be drawn from two main audiences. First, those who have not experienced this history first hand, but are acutely aware of the social context of museums that offer interactivity at every station from stone rubbing to touchscreens. The rapid pace of change involved in gaming and its technology amplifies this and all the while new media becomes old at an accelerated pace. The second audience, and those who are likely to attend specialist exhibitions at the Barbican or Strong Museums' *will* have had hands on experience with arcade games, either in their original incarnations in amusement arcades, as conversions to home microcomputers and consoles or as part of emulation (for discussion as to the legal complexity of this, see McFerran 2018). The net result is that museums attendees will have an acute awareness of the extensive hands on curatorial work, which, by default removes and places games from a specific historical context, into a specific social context and generates what Kocurek and Tobin (2014) have coined the 'undead arcade', an experience that in spite of not being able to be recaptured, continues to live, albeit in a distorted form.

This extended play as work of undead videogame amusement arcades outside of their specific historical context leads to the central consideration of this chapter. What has occurred and continues to occur in arenas where videogames remain within their historical context? Drawing on the position outlined through the literature that there are extensive historical forces evident in the work around protecting and playing arcade videogames, the discussion below is based on interviews and observations with individuals who are hands on throughout the history of these games. As shown below, individuals who have played and worked (and continue to do so) in amusement arcades which house videogames as living histories have first-hand, hands on experience of the videogame in the arcade. No matter how valiant the efforts of museums or emulation, this can never be attained by placing games into a specific social context., such as a museum,

Method

Interviews and participant observation were undertaken between March 2015 and August 2017. In keeping with themes in the historical literature by Downs, an English seaside town in Essex was chosen. This yielded one participant observation

and three interviews with participants. This allows two separate, but overlapping arenas to be explored. First in the traditional 'seafront' amusement arcades where old videogames are arranged in a manner similar to those in the past where they would exist as part of a larger economy of gambling 'fruit' machines, pinball, change machines, and food vendors. These machines are unmodified to the point where the cabinets require old 10 pence pieces to be used to begin a game. The second arena, less than a kilometre away, is an 'inland' retro arcade, which includes both original games and emulated 'candy cabs' as well as a cordoned-off area for high-value payout (£200+) fruit machines, which can only be played by those over the age of 18. Finally, there is a separate floor for high-end PC and Local Area Network gaming.

The second location for participant observation and an interview is a large inland arcade located one of the Northern industrial towns that provided many of the patrons for Blackpool in the nineteenth century. Although its location is not traditional for arcades, it does draw on some of the more extreme historical idiosyncrasies of 'inland arcades'. A bar serves alcohol and patrons can play all night on videogames that are set to 'free play', meaning they do not require money to be deposited into them.

As veterans of arcades in 1970s and 1980s UK, all participants witnessed the introduction of videogames to amusement arcades. Similarly, as they all continue to have gainful employment in arcades either as gamblers, employees or owners of amusement arcades, they have witnessed the retrenchment of videogames within amusement arcades in the late 1990s and have seen a concurrent rise in interest around retro arcades, particularly the rise of inland arcades. The names of the participants have been anonymized and three-letter initials (e.g. PSD, FSH), which would traditionally have been input into high-score tables, have been used in their place.

The findings presented here are broadly separated into three sections that spotlight the different elements of hands on history as arcades have evolved in their historical context. The discussion first shows how amusement arcade subculture drew individuals in and how the playing of games and playing with norms worked on the players in a specific and appealing way. The next section demonstrates how, following this period of experimentation, amusement arcades became a source of work, income and sustenance during the 1980s, while maintaining subcultural and hedonistic elements. The final section explores how contemporary amusement arcades continue to exist and operate and the individuals' part in this. Throughout, the hands on notion of history is accentuated, which foregrounds the argument made here and in others' work that while the game can be taken out of the arcade, the arcade cannot be taken out of the game.

Getting into games

As discussed by Downs (2010), videogames are a relatively recent introduction to amusement arcades, broadly coinciding with the widespread commercial

use of silicon technology in the last quarter of the twentieth century. Arcades were a popular leisure destination for the working class throughout the nineteenth and twentieth century and provided an induction into videogames via other coin-op games. This is observed very early on by PSD, the owner of an inland arcade in Essex who recalls the introduction of 'videos' to arcades in the mid-1970s

> The golden age in the US is talked about as '79 – '83, but mine was earlier, probably '72 – '76. We'd go on a week's holiday every year to Blackpool . . . and I'd be allowed to go into an arcade on my own. It felt like an hour, but you know it was probably only ten minutes . . . I was only seven as the coin-drop machines would take the pennies which went out of circulation in 1973.
>
> (PSD)

PSD's recollection follows in a rich tradition of relatively short holidays from the working class towns of Silloth to nearby Blackpool. This echoes a pattern of leisure consumption identified nearly a century before. PSD's memory is of parents who gave their son some change so that he could entertain himself while they did something else, possibly increasing the propensity for becoming inured to subcultures. The lack of extant surveillance from a moral guardian is in itself a method of attracting to young people visiting arcades (Tobin 2014), which somewhat contradictorily allows them to engage in "adult leisure which adolescents are impatient to experience" (Fisher 1995, 74), which would include, but not be limited to, gambling. This is especially salient here, because, as shown below, PSD would later become a professional gambler.

The continuum between young people, videogames, and deviant behaviour appears to be malleable and not wholly dependent on entering amusement arcades, as young people were "far more likely at an early age to encounter video games – widely spread throughout large stores, cafes, chip-shops etc." (Huff and Collinson 1987, 407). This is the extension of the subterranean values of play enshrined in the amusement arcade through the physical manifestation of the videogame: the cabinet and the game it contains. You can take the game out of the arcade, but not the arcade out of the game. As a result, the deviancy of amusement arcades proliferates, away from and beyond traditional underground sites and into supermarkets, takeaways, newsagents, and laundrettes (see Guins 2004). Indeed, anywhere that had a high volume of transitory, cash-rich passing trade, and required people to loiter or wait became an ideal locale for arcade games. This was another form of extended play: subterranean values that broadened into the formal, adult, social world. Yet, while many of these places appeared to be adult and mature, they were not even value-neutral proprietors of work and consumption. Instead, by selling fast, hot, cheap food, they offered some respite from the blancmange and semolina of school dinners and, in their own dubious practice, offered a reverse gateway

to the subterranean experiences proffered by the arcade, their hot practices playing fast and loose with the law to maximize revenue, which even extended to illegal sales of cigarettes:

> I'd go into a Chinese and pay 50p for three goes on the videos. There was this chip-shop where you'd get a fag [cigarette] and a match for 5p, a portion of chips for 25p and the rest for the videos. I was 12. Totally illegal of course. (FSH)

The 'safe' spaces that were offered by games are very much in flux here. Clearly, FSH, now a staff member at one of the largest seafront arcades in Essex, was 'safe' from the moral guardians of parents and was able to smoke underage, safe in the knowledge that he wouldn't be caught. The risk to the proprietor is equally clear in selling cigarettes to minors: hiding the cigarettes surreptitiously from prying authority figures is a tactic employed by children as regards to evasion of the paternal gaze. The risk and reward that is key to success in arcade game play is extended here into the balance between restitution and destitution and arguably it is the formal, adult world of the fish and chip shop, which has the greatest amount to lose and the least amount to gain, while the risk to the schoolboy is minimal, the gains, via inducement into the adult world, are significant.

Perhaps it was the perceived success of amusement arcades and the increased revenue allied with the introduction of videos that encouraged individuals to welcome the arcade into everyday spaces. This is seen in recollections of amusement arcades from the 1970s and the difference that the shift from the chrome and gloam of electromechanicals to the smooth sheen of videos made to revenue and the environs of the amusement arcade:

> The charm of the arcades then was the noise of the electromechanicals [pinball, shovellers] dovetailing with the cutting edge of the videogames. Those games really made a difference. It was louder then [1970s] as there was no carpet in a lot of arcades, then by the 1980s arcades became better at making money and they had carpets. The videogames really made money. (PSD)

The psychology employed here has a genealogy that stretches back to Blackpool Pleasure Beach of the early twentieth century where machines were "bright and beautiful; coin chutes were designed to maximize the sounds of falling pennies to encourage the sensation of significant winnings" (Downs 2010, 58). The seductive gleam of arcades in the 1970s and 1980s is now augmented by the bleeping and winking of the screens of videogames. This potential for revenue extended play not only into everyday spaces, but, on a much larger scale, from the seafronts of holiday towns to the streets of factory towns, transferring the seaside to the urban and leisure to labour. This found its logical conclusion in an arcade in Workington,

where, as was the dream for those who struggled with low-quality arcade conversions of their favourite games, the arcade experience quite literally 'came home':

> There were arcades everywhere back then [in 1981]. Silloth, Blackpool, Carlisle, Workington. Inland arcades too. One day I remember going a short cut into town [Workington] and in the middle of this street, in this terraced house there was an arcade. This wasn't a room, it was *every* room. These huge cabinets in a 100 square foot house, there wasn't enough room to breathe. Can you imagine being a neighbour to an arcade? It got shut down by the Council a fortnight later. It was just totally against the law.
>
> (HAM)

While arcade videogames were not ostensibly portable, they were able to be used in most locations. Generic 'woody' or 'candy cabs', which were uniform in size and used a standard 240v electrical outlet, made installing an arcade in a town house a relatively straightforward task. The domestic arcade described by HAM, who is now the owner of a large northern inland arcade, opened in 1981, appears as part of a wider trend towards the production of "events, spectacles that have an almost instantaneous turnover time" (Harvey 1989, 157) prefiguring the seasonal pop-up shops of contemporary high streets by over 30 years, characteristics that clearly appealed to young and impressionable, perhaps even bored young adults taking a quotidian shortcut through a residential area. In the contemporary realm the emphasis of sheen over situation has been taken to its logical conclusion. Recent arcade spectacles such as *SnoCross* or *Star Wars: Battlepod* continue to have an emphasis on quick turnover, of money and personnel, yet this is not contingent on *agon*, the skill of the player, but on arbitrary time-limits fixed by the developer or operator. Irrespective of the skill of the player, exposure to the game remains broadly the same: while practice and skill may improve social standing on the high-score table, it will never extend play either for the player, or into locations outside of the amusement arcade, where space is at a premium and other consumer electronics can be used as emulators or substitutions instead.

Working the game

If arcade games of the 1970s and 1980s were flexible in their location, they were equally flexible in the experiences they proffered, not only to the user, but to the arcade operator or proprietor. Printed circuit boards (PCBs) could be swapped in the same cabinet, often leading to humorous disjuncture between cabinet art and the actual game. Dipswitch changes permitted operators to alter the difficulty level of the game, new technological innovations impelled manufacturers to increase the price of cabinets and, in turn, increase the price charged to individuals playing the game, sometimes by as much as 100%.

While these changes to price and difficulty structures were expected, it did not mean that they were accepted and they had the greatest effect on how games were approached and played within arcades,

> I think it was *Galaxian* that came out and it was like 20p a play. Full colour, lovely backgrounds, but that was like twice the price of *Pac-Man* or *Space Invaders* or *Asteroids*. That's a big hike . . . for the faces [arcade regulars] they had to find ways to deal with this . . . you either got very good, found something else, or got good at playing the floor.
>
> (FSH)

The construction and maintenance of 'being a face' – a regular customer of social standing – was dependent on being proficient at a certain game, of 'getting good'. Proficiency required an investment of time matched only by the deposit of money. In distinction to Trapunski's idea that a coin offers *quid pro quo* and Kocurek's (2012) observation that play can be extended through practice and skill, there is a different type of play at work here, that of 'gaming' the wider arcade. FSH notes a clear delineation between being 'very good' at playing the game, and being 'good at playing the floor'. Playing the floor would be a hands on experience. It would normally mean gambling on fruit machines to increase funds, but sometimes involved practices that stretched or punctured the boundaries of legality, turning the mechanics, the *machinery* of the game inside out and back on itself

> I'd see it as a floorwalker [employee who looked after the machines and customers]. I'd go up to the change machine to get the money out and it'd just be water. People had put 50p pieces made of ice into the slot and it had given them 50p's worth of change in 10s. I guess they would go back into the videos. They were primitive then, you can't do it now of course.
>
> (FSH)

The tricks and 'systems' used to game the games show how, in the face of increased prices, hacks – novel solutions to complex problems and ways of manipulating regulatory technologies – can be explored and exploited. FSH also recalled that he never caught patrons stealing directly from change, fruit or video machines, but that infrequently, employees who had access to machines were caught stealing cash from pinball and arcade games. In this instance, it is not young people who were deviant or criminal, but the autonomy of workers in the amusement arcade that brings subterranean values to the surface, a by-product of unsupervised employment at the low-end of a cash-rich industry where dingy, dark corners, lit only by the screened-out faces of the vidkids would promote such behaviour. (Kent 2001, 50). Arcade operators attempted to reduce the widespread use of cash by using tokens, resulting in more sophisticated, 'grey' workarounds, involving collusion between staff and regular customers:

> You've got to work every angle. This is a minimum wage business, like a lot of entertainment industries, you end up spending your money where you've

> earned it, on highscores on videos or pinballs . . . I would get the floorwalkers to tell me when they think a machine is going to pay [tokens]. I'd get the tokens and put them in a low-pay machine. Tokens in, cash out. They'd keep the cash and I'd keep half the tokens and put them in *Defender* or *Asteroids*.
>
> (VIV)

This extension of play into manipulating machines and processes was sophisticated by its very nature: as techniques and technologies of control and command became more complex, so did the approaches required to circumnavigate them. There were simpler – and more elegant – ways of achieving desired outcomes. FSH recalled that removing the piezzo electric element from a cigarette lighter and arcing it across the coin slot of *Moon Cresta* could acquire "free plays, but sometimes it would just blow it up". Other players tried "changing the coin slot on shovellers so it took 2p instead of 10p, less money in, more money out" (VIV): because two pence pieces were larger than 10p pieces, they were also more likely to move the money at the front of the shoveller towards the chute. Both operators and players adapted within an arms race of institutional rules versus guerrilla tactics where the prize was cash and credit to play games. For many of the respondents, following their childhood initiation to arcades, their interest was maintained not by new games and graphics, but by learning about the challenges posed by new technology, how to overcome them and how to use their hands on knowledge of the arcade to their advantage. This expertise could be employed maliciously: the predilection for sexual assault noted by Amis (1982), Sudnow (1983) and Foulkes (1981) is emphasized by the observation of FSH

> You remember *Donkey Kong*? There was this girl playing it and she was so into it that this guy just came up behind her and lifted her skirt up. She didn't even notice! He had it up all the time she was playing just because she was so into it [the game].
>
> (FSH)

This advances the idea that the "nightclub-dark" of the arcade is closer to a casino or club, where "electronic jingles and pop music suppress normal conversation and keep the mind focused on the machines" (Needham 1982, 54; Fisher 1995, 75) to the point where the young woman in FSH's anecdote was so engrossed in a video game that she was unaware her skirt had been lifted. The proclivity of screens to captivate individuals – young and old – is a debate that continues from *Minecraft* to *Snapchat*. Knowledge gleaned from the arcades of the 1980s shows that these concerns are not new and with the ongoing problems associated with sexual bullying and violence in schools along with online predation among young people, neither are they trivial.

Reviving the game

In the amusement arcades of the 2010s, there is a revival of the 'naughty places', of the dim and dank corners of the past where moral panics and subcultures

spawned side by side. For the seaside arcade, the experience can only be complete if the entire historical context is present. Reconfiguration of old *Track and Field* (1983) and *Pac-Man* (1980) cabinets to accept modern 10p pieces, or even to be switched to free play is not possible. Instead, old 10p pieces are exchanged at the counter, where the metallic stacks are piles of pounds. It requires a human to undertake the transaction from modern money to old iterations: modern change machines do not accept obsolete coins. The reliance on electromechanical technology, experienced in jammed coins in coin chutes, and screen-burn – where images remain on the screen even after the power supply is disconnected and ghosting, where images remain after they should have notionally disappeared – is part of the experience

> It's difficult to find that balance, but I don't know any other place in the country where you have to use old money for old games. Games in the past were about choice, if you wanted to put 10p in a machine to last all night you could if you were good enough. In an all you can play arcade, where you're paying a tenner [£10] for all night and you expect them all to work and I guess it's trying to get people in who haven't played [arcade] games before. When these machines go kaput, we can give the punter another go on another game. Because it is seen as free, people are often really happy.
>
> (VIV)

The assumption is that because the seafront arcade has a diversity in machines, that offering authenticity in both monetary exchange and the game experience, videogames remain in the spiritual homes of the seaside amusement arcade

> We can do that because it's not just what we do, if a machine goes kaput we can leave it off until the engineer fixes it, or we can have a go. Even though we have access to the coin box, the money isn't worth anything, not like the old days . . . I think the owner of this place, owned three scrapyards, not sure if he still does or not. Do you know how much it [the arcade] cost? Three million quid. That's the money he's holding in the place. When it was closed one day he lost £3000, not sure if that was revenue or profit, but it's not bad for a day's play.
>
> (FSH)

As VIV notes, for inland arcades, which rely on the proper functioning of old machines, and is central to what they do it is essential that they offer all of the games all of the time: maintenance of the social context is essential to its success. This is significant technical and logistical challenge, as HAM notes:

> We have two engineers on duty to look after all of these machines. They are in as close to perfect working order as any in the world. The screens are new

> or refurbished, the boards the same. Often, this is not about over-use, but under-use: a game left on for 100 hours will continue to work, it's when you drop the power supply that the problems really start . . . The 100 or so games you see here are just part of our collection, we have a load more in storage and they can be a pig to get started when we bring them in here.

Furthermore, the maintenance of expectation in inland arcades incurs large economic costs, which must be offset by any means possible. Akin to the floorwalker in an arcade in the 1980s, the owner of a retro arcade in a city centre can only spend his money one way: by putting it back into arcade machines,

> I was a professional gambler until 2005. On the ferry between Portsmouth and Bilbao I could clear £2000–£3000 a trip . . . When I opened this place I put 250 thousand [pounds] of my own money into it, but it doesn't pay for itself, that's why we need adult fruits [fruit machines with high payouts] to support the retro gaming.
>
> (PSD)

More than in any other statement, PSD reveals here how hard individuals work at maintaining the amusement arcade. This is highly personal investment in an area where there is a relatively low demand, but the hands on work of the arcade proprietor, their investment in social and cultural capital is such that their financial capital is placed at risk. For FSH, gainful employment in a seaside arcade remains, but in one of the few places in the UK where a link to the past of arcade cabinets remains, not 'undead', but instead in the case of the Essex seafront, a place that has "done pretty well as arcades go as people know what they're getting, gambling, fairground, chip shops, fresh fish" (FSH).

Conclusion

This chapter posits that much of the literature written of the time and at the time reflects notions that amusement arcades, with their position geographically and culturally underground, gave rise to proliferating and, at times, nefarious subcultures. These grew out of these contradictorily safe places that allowed experimentation and innovation with subterranean values and extended into the formal, 'adult' social world. It is in how these social, financial and cultural notions, fermented in working class towns which hosted videogame amusement arcades in the 1970s and 1980s, influenced and even educated individuals into extending play into the realm of a postindustrial economy. While these subterranean values were initially located underground, through a lived, hands on history the amusement arcade continues to exist, inland, seaside, but always underground, not purely as hedonism and not only as work, but as a hands on way of life extending play through the present and into the future.

Bibliography

Alcorn, A. (2014) When Arcades Ruled the World: The Genesis of an Industry. *Retro Gamer*, Issue 127, April 2014.

Amis, M. (1982) *Invasion of the Space Invaders*. London: Hutchinson.

Caillois, R. (2001) *Man, Play and Games*. Urbana, IL: University of Illinois Press.

Castells, M. (2001) Museums in the information era: cultural connectors of time and space. Presentation given at *ICOM*, Barcelona, Spain 1–6 July 2001 available at http://icom.museum/fileadmin/user_upload/pdf/ICOM_2001/ICOM_ENG_10_2001_small.pdf, 4–8. Retrieved 28 March 2018.

Centre for Leisure Research (1990) *Playing the Machines: A Study of Leisure Behaviour*. Edinburgh: Citizens Advice Bureau.

DeLeon, C.L. (2014) Arcade-Style Game Design – Pinball's Connection to Coin-Op Videogames. *Kinephanos*, January 2014: 43–57.

Downs, C. (2010) Two Fat Ladies at the Seaside: the place of gambling in working class holidays. In Snape, R. and Smith, D. (eds). *Recording Leisure Lives: Holidays and Tourism in 20th Century Britain.*, Vol 112, Eastbourne: Leisure Studies Association, 51–73.

Fisher, S. (1995) The Amusement Arcade as a Social Space for Adolescents: An Empirical Study. *Journal of Adolescence*, 18: 71–86.

Foulkes, G. (1981) Control of Space Invaders and other Electronic Games. *HC Deb* 20 May 1981, 5: cc. 287–291.

Goffman, E. (1961) *The Presentation of Self in Everyday Life*. London: Penguin.

Guins, R. (2004) "Intruder Alert, Intruder Alert! Videogames in Space", *Journal of Visual Culture*, 3(2): 195–211.

Guins, R. (2014) *Game After: A Cultural Study of Videogame Afterlife*. Massachusetts, MA: MIT Press.

Haddon, L. (1988) "Electronic and Computer Games: The History of an Interactive Medium", *Screen*, 29(2): 52–73.

Harvey, D. (1989) *The Condition of Postmodernity*. Oxford: Blackwell.

Huizinga, J. (1970) *Homo Ludens: A Study of the Play Element in Culture*. London: Paladin.

Huff, G. and Collinson, F. (1987) Young Offenders, Gambling and Video Game Playing. *British Journal of Criminology*, 27(4): 401–410.

Huxley, J. and Carroll, D. (1992) A Survey of Fruit Machine Gambling in Adolescents, *Journal of Gambling Studies*, 8: 167–179.

Kent, S. L. (2001) *The Ultimate History of Videogames*. New York: Three Rivers Press.

Kocurek, C. A. (2012) Coin-drop Capitalism. In Mark J. P. (ed.). *Before the Crash*. Wolf, Detroit: Wayne State University Press, 189–208.

Kocurek, Carly A. and Tobin, Samuel. (2014) "Introduction to the Issue" *Reconstruction: Studies in Contemporary Culture* 14(1).

McFerran, D. (2018) The retro gaming industry could be killing video game preservation. Available at http://www.eurogamer.net/articles/2018-02-09-the-retro-gaming-industry-could-be-killing-video-game-preservation. Retrieved 8 March 2018.

Needham, N.R. (1982) Thirty Billion Quarters Can't be Wrong – Or Can They? *Today's Education*, 71: 53–55.

Newman, J. (2012) *Best Before: Videogames, supercession and obsolescence*. Abingdon: Routledge.

Newman, J. (2016) Mazes, Monsters and Multicursality: Mastering Pac-Man 1980–2016, *Cogent OA Arts and Humanities* 3(1) available at http://www.tandfonline.com/doi/full/10.1080/23311983.2016.1190439. Retrieved 13 March 2018.

Rubin, M. (1982) *Defending the Galaxy: The Complete Handbook of VideoGaming*, Gainesville: Triad Publishing Company.

Salen, K. and Zimmerman, E. (2005) Game Design and Meaningful Play. In Raessens, J. and Goldstein, J. (eds). *The Handbook of Computer Game Studies*, Massachusetts, MA: MIT Press.

Southern, M. (2001) The Cultural Study of Games: More Than Just Games. Paper presented at the 2001 Game Developers Conference Europe, London.

Sudnow, D. (1983) *Pilgrim in the Microworld: Eye, Mind and the Essence of Video Skill*. New York: Warner Books.

Swalwell, M. (2008) 1980s Home Coding: The Art of Amateur Programming. In Brennan, Stella and Ballard, Su (eds). *The Aotearoa Digital Arts Reader*, Auckland: Aotearoa Digital Arts and Clouds.

Tobin, S. (2014) Loitering in the Arcade of Game Studies, Paper presented at the conference of the Digital Games Research Association, Snowbird, Utah, 4 August, 2014.

Trapunski, E. (1979) *Special When Lit: A Visual and Anecdotal History of Pinball*. New York: Doubleday and Company.

Wasiak, P. (2013) Playing and Copying: Social Practices of Home Computer Users in Poland during the 1980s. In *Hacking Europe*, Gerard Alberts and Ruth Oldenzial (Eds) New York, NY: Springer, 129–150.

Young, J. (2005) The Subterranean World of Play. In *The Subcultures Reader*, Ken Ganlan (Ed.) Abingdon: Routledge, 148–156.