KINEPHANOS

Remembering Repton:
An alternative history of co-creativity in 1980s Britain

Alison Gazzard

Abstract

This article explores some of the histories of player creativity in the 1980s through the inclusion of early level editors in games. Drawing on Huhtamo's (2011) media archaeological framework of tracing "alternative histories" the article will trace the histories of level editors in games created for the BBC Micro through the case studies of *Repton 3* (Superior Software 1986) and *Repton Infinity* (Superior Software 1987). Whereas current writing about fan practices and user-generated content by players focuses on the online possibilities of creating and sharing, this paper recognises these practices inherent in offline spaces. Using archival documents from magazine articles and reviews, the concept of player as producer and the role of user-generated content will be re-examined as a way of exploring another facet of this history.

Keywords

Co-creativity, level editor, microcomputing, BBC Micro, 1980s, platform

*****

Introduction

> "In the field of game studies and within the consumer market we rarely (or are only beginning to) attend to videogames […] in terms of their aging, deterioration, obsolescence, ruinous remains, or even history…" (Guins 2014, p.5)

In the opening pages of Raiford Guins' book *Game After* (2014) the author notes how there are histories of games within game studies but these have been unintentional anecdotes and

not always written as the sole purpose of the text. The vast amount of games created across continents and across various platforms means that more dominant histories of game development continue to survive and be retold raising the questions of how histories can often be forgotten through the creation of new disciplines and the ways in which we start to define terms within a field. The introduction of 'new technologies' and therefore new ways of theorising these developments also means that older, associated technologies and their cultural and social positioning often get lost within retellings of game histories. Focusing on particular eras in game history across continents can lead to the labelling of genres of games being created alongside hardware or software developments. For example in the 1980s, the American perspective is often situated in pre and post crash console game sales and development (cf. Wolf 2012, Montfort and Bogost 2009), whereas the British, European and Australian scenes are ones recognised for home microcomputing developments and independent game programming (Gazzard 2014, Lean 2008, Swalwell 2012, Suominen 2011).

These overarching narratives can lead to generalisations about game software creation and use, with the more successful games and platforms of delivery taking precedence in discourses of these times. It is for this reason that this article will outline what can be seen as an alternative history of game creation in the 1980s, one focused on both the game developer and the game player, as level editing functionalities started to become packaged with game content. Whereas producer-consumer relationships have already been highlighted within discussions of microcomputing these have often been linked to the development of software from scratch or by users typing in program listings in magazines (cf. Swalwell 2012, Lean 2008). Instead the term 'alternative history' is used here in reference to the growing work of media archaeology (cf. Parikka 2012, Huhtamo 2011). For Huhtamo (2011), "media archaeology means a critical practice that excavates media-cultural evidence for clues about neglected, misrepresented, and/or suppressed aspects of both media's past(s) and their present and tries to bring these into conversation with each other." By tracing histories of level editing in games during the 1980s in Britain, this article seeks to draw out some of these "neglected" and "supressed" aspects of game creation through an examination of the game series *Repton* that was developed on and for the BBC Microcomputer (and subsequent Acorn platforms) from 1985 to 1990.

1980s Britain is chosen as a time and place here due to its emerging microcomputing culture and subsequent software industry that developed in relation to this, particularly in the area of game development. Similarly, the *Repton* series has been chosen as a case study for a variety of reasons; not only is *Repton* rarely referenced in the books and articles currently discussing gaming's past, but the game was developed on a computing platform (the BBC Micro) that is again often not fully discussed in relation to British computer game histories. It is by situating *Repton* in light of other games with level editors in the 1980s that we are able to trace what Huhtamo would term to be the "topos" of media content, "a stereotypical formula evoked over and over again in different guises and for varying purposes" (Huhtamo 2011, p. 28). Here we can start to see the level editor as a form of "topos", packaged and presented as a way for users to adapt and create their own game levels based on the assets provided alongside the playable game. Although situated as a creative practice associated with the 1990s (cf. Manovich 1998), the ability to edit game levels was also deliberately built into other games within the 1980s on a variety of platforms. As such the level editor allowed for another type of creative practice, as linked to discussions about "user generated content" that differed to the skillsets required in programming games in various languages.

Instead of typing in lines of code, the level editor allowed for a more WYSIWYG (what you see is what you get) method of game creation now so often discussed in light of new media content creation. Using the "topos" of level editing, we can see how *Repton* fits within cycles of media traditions focused around user and developer content creation, and the sharing of digital media content between users. In doing so, we are also able to see how tracing particular game franchises as linked to individual microcomputing platforms, allows us to uncover other parts of game history often lost as changes in hardware saw the amount of press coverage surrounding these game titles wane as other, more contemporary machines came to market. What is interesting in the case study of Repton is that the level editing and game creation possibilities became its unique selling point as further iterations of the game were released despite the downwards trend in sales for the BBC Micro that it was released for.

Revisiting Play.Create.Share

> "New products are often promoted by being packaged into formulas that are meant to strike the observer as novel, although they have been put together from ingredients retrieved from cultural archives." (Huhtamo 2011, p. 28)

As has previously been written, our nostalgia for gaming's past often draws on references to particular game titles or platforms, which remain dominant in subsequent discourses (cf. Gazzard 2013). Fan sites found online can amplify this, as although they help to archive and retain products related to gaming history (Swalwell and Stuckey 2014), they can also continue to highlight certain perspectives of cultural histories of games around the world. Similarly, general books on game history, such as Donovan's (2010) *Replay: The History of Video Games*, or *Grand Thieves and Tomb Raiders* (Anderson and Levene 2012) whilst both recognising British game histories, cannot capture every game or platform. However, what these books can do is provide an overview of an area to form the basis of a further exploration by others.

According to Donovan, "*Lode Runner*, a platform game with a level-creation tool…pioneered the idea of allowing players to create game content – a concept that would be taken further by games such as *Quake* and *LittleBigPlanet*." (Donovan 2010, p.142). In his history of the software industry Martin Campbell-Kelly (2004, p.277) recognises the rise in home computers during the 1980s as not only products to equip the home office or educational institution but also as a means to play games. It was during this time that Brøderbund emerged as one of the key players developing games software in the US. Founded by Douglas Carlston in 1980, Brøderbund was also responsible for the game *Lode Runner*. Released in 1983 *Lode Runner* is a platform style game that involves dodging enemies and collecting rewards and is also often cited as one of the first games to include a level editor (c.f. Donovan 2010, p.142). The player character is able to climb ladders, go along wires and create holes in the brickwork to temporarily trap the enemies in order to succeed. The simplicity of the design can see the game being likened to other arcade style platform games of this time, yet the options screen on loading up the game portrays a different story. Here the menu system not only presents the user with a 'Game Generator' option the game generator menu itself allows the user to edit, test, and move the content. Whilst editing the game the

user is then able to construct new walls, poles to climb on and re-position enemies and rewards by repositioning the objects onscreen. On completion, levels can be saved and shared on the many microcomputing platforms it was available for including the Apple II, VIC-20, ZX Spectrum, BBC Micro and Commodore 64. In fact this was emphasized in a review of the BBC Micro version of the game in the November 1985 issue of *The Micro User* magazine that comments, "should [the levels] be insufficient you can use the game's in-built screen editor to create your own. These can be saved to tape and re-loaded at a later date." (Revis 1985).

Similarly, other games released during this decade included level editing capabilities. *Impact!* (1988), a simple game based on *Breakout* in which the player has to hit the ball across the screen to destroy the coloured blocks, afforded players the ability to change the levels, insert different rewards, re-structure and generally re-purpose the game. This functionality is titled the 'designer' on the game's menu screen, and gave the player the ability to devise their own levels by changing the positioning of laser reflectors, indestructible blocks and bonus blocks, thus extending the possibilities of the gameworld and creating the potential for more level designs that players could encounter. Both *Lode Runner* and *Impact*! allowed for the player to become the designer of content, and establish a sense of creativity within the gamespace.

Despite these instances of level creation, academic literature making claims about creative media (game) production rather than consumption, are often traced back to Sue Morris' (2003) DiGRA paper, 'WADS, Bots and MODs: Multiplayer Games as Co-Creative Media'. Whilst Morris' paper clearly outlines its focus on the first-person shooter genre and the resultant modification possibilities of such games as linked to developing online communities in the early-1990s, further discussions of what Morris defines as 'co-creative' media continue to use these game examples as a starting point to later discussions of player as both producer and consumer of content (cf. Wirman 2009, Newman 2008, Dovey and Kennedy 2006). Although rarely referenced in academic literature on level creation, other attempts have previously been made to recognise how histories of level editing can be traced back to games before *Doom*. James Newman (2008, p.163), in particular, notes how this "lineage may, in fact be traced back further still to games such as Electronic Arts' Pinball Construction Set (1983), Adventure Construction Set (1985), Racing Destruction Set (1985) or Sensible

Software's 1987 title Shoot Em Up Construction Kit". These kits are not seen as games by Newman but instead "resources with which to make games". In this instance the construction kit is seen as separate component to the games available, not necessarily allowing for a seamless synergy between playing the game and creating game content linked to already designed levels. Although the various construction kits on offer allowed for a variety of levels to be created for distinct genres of games, they were not built into particular games themselves thus becoming more generic toolkits for those wishing to build on a particular genre further rather than a particular game franchise. However, these kits recognise early producer-consumer relationships offered by games during the 1980s and Newman's discussion of going beyond *Doom* and early first-person shooter games in reference to co-creativity starts to open up a dialogue about other histories of games during the 1980s. Here we can see how the level editor in the offline space offers a slightly different take on co-creativity, where the player feeds their creations back into the player community, but does not necessarily influence the rest of the game's production.

However, we can see a similar model appearing in games that allow for online connectivity showing how cycles of media change continue and present themselves years later. Four years on from Morris' article, the concept of Game 3.0 is coined by Phil Harrison in his keynote speech at the 2007 Game Developer's conference (cf. Wirman 2009). Game 3.0 is paralleled with the producer-consumer relationship seemingly offered by Web 2.0 media, where user-generated content plays a key role in the player's engagement of/with the gameworld and subsequent levels they might create. One such example of this is the game *LittleBigPlanet* with its tagline of 'Play.Create.Share'. As well as being able to play various levels of the game, *LittleBigPlanet* comes equipped with its own level editor containing tutorial voiceovers in a similar style to that of the main game. This part of *LittleBigPlanet* allows for the game not only to be played, but also allows players to use what Wirman (2009) terms to be "tools" of level creation, adding to the co-creativity of the gameworld. These tools are also presented in the form of assets bundled with the game in order to extend it. Not only is the content generated in the game, it is also shared by players and users of the *LittleBigPlanet* community through the Playstation Network system as linked to the game platform. What we can term here to be the 'LittleBigPlanet effect', the ability to Play. Create. Share as per the game's tagline, can also be seen in offline games present in microcomputing cultures in

Britain in the 1980s. As Melanie Swalwell (2012, p.11) notes in reference to this time in the context of Australian microcomputing cultures, there is an "historical amnesia of those who think that user productivity began with the age of broadband". The inclusion of the level editor within games in the 1980s allowed for a type of user productivity akin to that found in games such as *LittleBigPlanet* today with the sharing of content being platform dependant much like in the case of the Playstation Network. Here we can see similar trends emerging as linked to the cycles of media content and production discussed previously.

Platform recognition

Much like the computing scene of America, as outlined by Campbell-Kelly (2004) above, many platforms of the 1980s in Britain were not machines solely for game playing. Instead a variety of homegrown microcomputing platforms emerged including the ZX Spectrum and Commodore 64. Histories of microcomputing from this time often pitch debates about the ZX Spectrum and the Commodore 64 as game machines of choice; a rivalry that exists today both online and in magazines such as *Retrogramer* (2014, issue 136, p.9). In a similar vein, games were often released across multiple microcomputing platforms during a certain period of time; games such as the previously mentioned *Lode Runner*, *The Hobbit* (cf. Stuckey 2014), and *Elite* (cf. Gazzard 2013). Just as the game titles become dominant in retellings of game history, so too do the platforms. Yet by taking a media archaeological approach to the platform, as recognised by scholars such as Apperley and Jayemanne (2012) and Parikka (2012), we can echo Huhtamo's thoughts about how media archaeology, "emphasizes the multiplicity of historical narratives and highlights their constructed and ideologically determined nature." (2011, p. 28) The dominance of the platform in the battle of the 'ideal' games machine, the machine best suited to not only creating games but displaying them, means that other microcomputing platforms are often removed or little discussed in these historical narratives.

Whereas the ZX Spectrum and Commodore 64 are often remembered as the gaming platforms of choice, other machines such as the BBC Micro also allowed for users to program and play games. Whilst Sinclair's ZX Spectrum was released as a low cost microcomputer, the BBC Micro was developed by Acorn Computers Ltd, who won the bid to create a machine to serve as the 'face' of the Computer Literacy Project backed by a national

television provider, the British Broadcasting Corporation. The BBC Micro's link to the Computer Literacy Project, along with its higher price point and use in schools, means that the resultant connotations of the machine were ones connected to education rather than entertainment. Yet the BBC Micro had similar cultures of allowing users to type in game programs from magazine listings, play a range of games released for the system, and save content to cassette tapes or floppy disks.

Although not unique in their capabilities for file sharing through saving content to cassette tapes or floppy disks, the cultures of British microcomputing games went beyond the fixed console game development industry that was emerging in parallel during this decade. Alex Wade recognises these differences in each of these industries, once again drawing on the producer-consumer relationships of British microcomputers when he states,

> **"**US consumers were more inclined towards using what they were being sold - hardwired into the process of consumption - whereas the UK was as flexible as the Spectrum's rubber keyboard, flouting copyright and established trade practices to integrate production and consumption seamlessly, a genuine precursor to the user network societies generated today by participatory media culture, and 'Web 2.0' applications where the consumer is fully and willingly complicit in the production process" (Wade 2007).

The properties of the platform become paramount in our understanding of how software could be written, played, and shared including the abilities of editing levels. As Montfort and Bogost (2009, p.147) note our ability to study the platform exposes not just the computer system or architecture but helps to connect "the fundamentals of digital media work to the cultures in which that work was done and in which coding, forms, interfaces, and eventual use are layered upon them."

In the case of the ZX Spectrum and BBC Micro, when turning on the platforms the user was confronted with a limited screen. Commands had to be typed in order for anything to happen, even if this was purely to load a cassette tape from an attached player. Both platforms required some form of user engagement with the versions of the BASIC programming

languages presented as a default start up, and for others, the ability to create even further content was a key feature of the machine. These properties were then transferable as games allowed for other forms of content creation and sharing. However, it is by examining the game series *Repton* that we can see how another layer of creation and participation occurred through further extensions of its level editing functionality through its different releases. This in itself extends the examination of microcomputing cultures undertaken by scholars such as Swalwell (2012) who discuss the microcomputing scene in New Zealand being one of active learning through the typing and tracing of code as an integral part into the user's participation and engagement with the gaming scene. Instead we can look to the games themselves and how level editors allowed the player to use the tools built into the game software instead and have another sense of "learning by doing" (Swalwell 2012) as well as sharing the results of their labours. Interestingly in the case of Repton, this layer of being able to program the game as well as use the graphical level editor became integrated into the game creation possibilities of the system in later versions. In order to uncover these differences and changes in production, we need to look at the archive, one of the fundamental starting points of media archaeological work (cf. Parikka, 2012, p. 113). For the purposes of this article, the archive constitutes print magazines from this time, most notably the platform specific *Acorn User* and *The Micro User* issues as well as fan created archives of material placed online years after the release of the game, but which continue to document the levels once and still created with it.

Level Creation and Lost Histories

As noted in the Edge magazine's 'Making of Repton' feature, "after *Elite*, [Repton is] probably the best-known game ever to be released for the BBC family of home computers. Its 15-year old creator earned telephone-number royalties from its publication, and that of its sequel." (Edge Staff 2009) Released in 1985 *Repton* was created by Tim Tyler in a month on his BBC Micro and subsequently published by Superior Software. The game involves the player controlling a reptile like character along different paths to collect diamonds whilst pushing boulders on the monsters that stood in its way through each of the 12 levels.[1] Although now compared to *Boulderdash*, Tyler is quoted as never playing the game, and as

[1] When all 12 levels were complete a congratulations message was displayed on the screen. The first person that sent Superior Software a photograph of the screen won £100 as noted in adverts for the game in 1985.

such the similarities are only in retrospect (see Edge Staff 2009). Reviews of the game in *The Micro User* and *Acorn User* magazines were both complimentary with statements such as "this is an astounding game reaching new heights in BBC arcade adventures" (Tudor 1985, p.78) and "…for my money the best arcade game for the Beeb and Electron yet!" (Smith 1985, p.155). The success of the game amongst the BBC Micro playing public meant that after only three months Superior Software asked Tyler to create a sequel; with that *Repton 2* was released. However, as the 'Making of Repton' reveals, "it's notable that the idea to include a password and map facility in the original Repton was down to Chris Payne, Superior's then marketing manager" (Edge Staff 2009). *Repton 2* was significantly harder than the first *Repton* yet it was initially released to positive reviews in both *The Micro User* and *Acorn User* magazines as noted by one reviewer, "I haven't completed even 10 per cent of this adventure, but I relish the prospect of finding my way further into it" (Andrews 1986, p.89). After his success with the first two games, Tyler sold the series and didn't create another.

However, Superior Software decided that audiences deserved another game in the series and this time Matthew Atkinson, along with Chris Payne and Richard Hanson (managing director of Superior Software) were responsible for creating *Repton 3* released in 1986. Although the game contained similar elements to the first two in the series, *Repton 3* went one step further by including a level editor along with the game itself. According to 'The Making of Repton' article, "Repton 3 was the best-selling game for the BBC from its launch in November 1986 until mid-February 1987. Then in-house, using the same tools they shipped with the game, Superior produced *Around the World in 40 Screens*, *The Life of Repton* and *Repton Thru Time* over the next 18 months, all selling spectacularly and running on the same code as the original" (Edge Staff 2009). It was this ability to create new Repton experiences in a relatively short amount of time that enabled the franchise to continue and for the team behind the Repton games to keep up with player demand for new levels. Similarly, players could now also modify the iconic character of Repton, and new levels could be created ready to share with others as another way of keeping the game franchise alive.

The ability to copy content was already prevalent within the microcomputing scene. Listed game examples in magazines often copied game mechanics and/or characters from well-

known arcade games in order to help users learn how to program their own games in reference to those they would have had access to in other forms (Gazzard 2014). Copying also allowed for the sharing of data in offline spaces; including the school playground or the computer club. In his research about microcomputing in 1980s Britain, Lean (2008) positions the computer club as a social mediator, taking the term "mediator" as serving "an interface between users and technologies and their producers". With reference to the role of the computer club in terms of copying software, Lean notes,

> "Software was a different matter as it could simply be copied and swapped between members…Clubs were considered by the software industry to be hotbeds of pirate activity, but they were involved with legitimate software distribution as well, by supplying programs users had written or in some cases obtaining commercial software at a discount" (Lean 2008, pp.110–111).

It is this notion of sharing between users that is mentioned in many of the *Repton 3* reviews found in magazines from the time. However, as is shown in the following examples this detail is often not as prominent as the game play elements that are still the main discussion point of the articles. In his analysis of computer game magazine reviews in *Computer and Video Games* magazine and *Commodore User*, Graeme Kirkpatrick (2012) notes how there was a shift in how the computer game was discussed during this time. As computer games became more familiar to audiences, elements such as playability, graphics and the value of games started to become distanced from other references to computing culture (Kirkpartrick 2012). In parallel to this we can see that the level editor as a point of discussion is a relatively new factor in magazine reviews of *Repton 3* and as such not as much page space is dedicated to this part of the game, which more generally relies on the player's understanding of other game related concepts including graphics and playability. As such histories of level editor use start to get lost, as the appeal of the using the editor is not always recognized within the magazine archive.

In the January 1987 issue of *Acorn User* magazine, David Lawrence opens with a discussion of Repton 3's playability and graphical competencies stating, "To be, fair Repton 3 is very good, the graphics are large and colourful, the tune almost bearable and the scrolling

acceptable. The basic idea is exactly the same as its forebears: diamonds still have to be collected, boulder puzzles solved and monsters killed". However, later on in the review a few sentences are dedicated to the "main facility of Repton 3 [being its] screen and character designer." Lawrence continues to inform the reader "This enables you to redefine totally all the characters and screens used in the game. Screens are designed in sets of eight and three sets are provided". Yet beyond this description little is made of the level-editing feature within the review and instead the fact the game is the third in a series becomes the focal point of the discussion.

Similarly a review in the December 1986 issue of *The Micro User* also focuses on the gameplay and the similarities and/or differences to the other Repton titles. The game space of *Repton 3*, throughout the review, is continually referred to as a maze with comments such as "each level is laid out like a maze" and "your route through the maze must be carefully planned" (Riddell 1986, p.21). It is not until the last few sentences of the review that the level editor is discussed but, again, in limited detail. Here the reviewer, James Riddell, comments, "Not only does Superior Software give you one of the best games of 1986 it also supplies a maze-editing utility. You can design your own fiendish mazes, save them to cassette or disc, and pass them on to your friends for them to solve".

A review of *Repton 3* in the January 1987 issue of *Computer and Video Games* magazine also briefly mentions the level and character editor functionality in the game with comments about how you can "redesign the game to baffle your mates". The review continues to discuss the editor stating, "You can invent your own puzzles and design your own characters if you so desire, although speaking for myself the existing ones are more than adequate" (1987, p.45). In all of the game reviews the level editor does not feature heavily as a selling point of the game, but instead, more of an additional feature that might be of use to some. However, the emphasis is on sharing content with others rather the resultant game being played purely by the player as friends are mentioned as the purpose of the editor in two of the reviews. Here the social spaces of the game are emphasised by the reviewers and the ability to share content in some form. The focus shifts from the player interacting with the levels of the game on their own to the ability to produce content and allow others to play levels they may have created, pre-dating the *LittleBigPlanet*, Play, Create, Share concept by 25 years. Although not stated

in those exact terms, co-creative media content generation is implied and made possible by the competencies of the player and the platform. For the Repton series this became a unique selling point seeing the level editing feature continue in the next iteration of the series, titled *Repton Infinity*.

After the next iteration of Repton titles built around the *Repton 3* game engine, *Repton Infinity* saw the game format change slightly once again. Unlike *Lode Runner* and *Impact!*, not only did *Repton Infinity* have a level editor, it also had its own language built into the editor, going under the name of Reptol. Released near the end of 1988, *Repton Infinity* was the last game in the Repton series for the BBC Micro. The back of game box sums up its release with the following statements, "Repton Infinity is the ultimate Repton program. You can completely redesign all of the game characters and game screens. But more than this, you can now also create a wide range of diversely different games using a special game-creating language." Here the characteristics of the level editor changed slightly, from being based around rearranging game assets to being able to rearrange them and change some of their properties through the built in programming language. User creativity could be found through level design, but also through some of the earlier computer programming related to computer literacy built into the rhetoric of microcomputing use. *Repton Infinity* bridged these two forms of "learning by doing" as players were able to design their own levels in much the same way some of the levels were created for the playable part of the game. Adverts for the game used this as a unique selling point of *Repton Infinity* with the "sophisticated game creator" taking pride of place in the their headlines.

However, the game's release came at a time when both the BBC Micro and the Acorn Electron were being phased out by other more contemporary machines. Searching through magazine archives from this time shows how this starts to become apparent through the lack of reviews found. Reviews of games once focused purely on the BBC Micro and Acorn Electron (a stripped down version of the BBC Micro marketed as a cheaper, more games focused machine) now had to cater for games developed and released on the BBC Micro, Acorn Electron and the Acorn Archimedes. Where details were found in amongst the game pages of magazines, once again they primarily focused on the possibilities offered by the

game package. This can be seen in the Hac Man column within the December 1988 issue of *The Micro User* magazine, which offers the following,

> "No Christmas would be complete without a Repton game. Repton Infinity is the name of this latest offering, so called because [in] it almost everything can be redefined – including the actions of the creatures and objects – allowing almost infinite scope for designing screens and puzzles that are even nastier than is currently possible. No doubt we will see some examples in due course" (Hac Man 1988, p.70).

There is also a brief mention of game found in the January 1989 issue of *Acorn User* magazine noting, "The main news in the games world this month is a new Repton. Repton Infinity is a complex games designer that you can use to build up your own games: Repton, Ravenskull, Pengo, Pipeline, possibility even Space Invaders and a spreadsheet – they are all possible. It comes with three example games, and you can compile any number of new versions" (Greenhill 1989, p.127).

Whilst the game is pitched by *Acorn User* to be the main news in the games world, this commentary only affords a small paragraph at the end of other more prominent game reviews. On the border between a pure level editor and a game playing experience without this functionality, the final iteration of *Repton* did not seem to warrant as much page space due to this unique quality of the release. A screenshot of *Repton Infinity* is posted in the following month's issue of the magazine, but does not have any mention within the accompanying text (instead the Archimedes version of *Repton 3* is discussed, one of the machine that followed the BBC Micro in Acorn's line up). In line with Graeme Kirkpatrick's (2012) findings about UK gaming magazines between 1981 and 1995, near the end of the 1980s reviews of games were more prominent than articles about how to use the computers that the games were made for. The ability to create new levels, program character and world states in this instance fell into the category of technical competencies rather than gameplay possibilities, thus more popular, easier to market games took precedence in the pages of gaming magazines, except for those still focusing on the functionality of the platforms they were released on.

A closer look at the advertisements for *Repton 3 Infinity* and its box art cover reveals how Superior Software tried to sell the game as both playable product and one that could be extended through other features in a way that was accessible to game playing audiences. The tag line on the box emphasises the creative aspects offered by the game stating, "You control the behaviour of the creatures…You determine the rules of the game…You create the whole scenario!" Yet at the same time *Repton Infinity* includes four playable games to give the player "some indication of the versatility of [the] package" including Repton 3 "to show [the] way", Repton 4, "a new puzzling predicament for our hero", Robbo "a crazy robot in a strange topsy-turvy world" and Trakker, "with 4 animated opponents to petrify you". The decision to start the games with *Repton 3* and build on the players' prior knowledge of the series or introduce new players to its mechanics helped to familiarise them with the type of gameplay inherent in the game series as a means to build on it in their own creations. The additional features in the game are marketed in a similar way, drawing on known conventions in popular culture and in technical product creation as a way of appealing to different knowledge bases of potential audiences. The character designer is named the 'filmstrip' and although serves a different purpose to a traditional film strip, it provides a platform for not only designing characters but animating them in a way akin to a timeline format offered by the filmstrip. Remediating (cf. Bolter & Gruisin 2000) familiar terms aids the transition from player to content creator by drawing on other popular media forms that players would have had access to. In this instance the game creator, where the player uses the unique Reptol language, to generate new relationships between assets in the game is termed to be 'Blueprint'. As a recognisable term for setting the foundations and planning, Blueprint can be interpreted by those that may not be as familiar with programming terminology or do not see themselves as capable of programming in the same way that the BBC Micro would have afforded with creating their own programs in BBC Basic or machine code. Using Blueprint once again seeks to open up an audience not necessarily fluent in programming languages but might be drawn into tinkering with one provided within the game editing functions.

Adverts for the game take known terms one step further by listing "Landscape" as the screen designer where new levels of *Repton Infinity* can be created and "FileLink" stated as being "The Co-ordinator". The FileLink option is emphasised with a screenshot of the game depicting a flow diagram linking up the landscape, blueprint and filmstrip options that come

together to create the final game file. Once again, terms such as "Landscape" rather than level editor generate a familiarity with terms not linked to terminology whilst "FileLink" uses computer based terminology in a way that demystifies the process. The interplay of technological and non-technological terms helps to attract audiences who may not have thought about creating their own games before, and separates the processes out from those that once relied on users being able to generate or modify other people's own code.

Whether these terms did draw in new audiences that wanted to make games is not clear and due to the nature of the platforms the games were created on at the time it is not always possible to find any games that were made with the level creation facilities. Searching the above magazine issues does not provide any clues to games made by others but fortunately, due to the archives of player material uploaded online, through fan communities linked to particular hardware platforms or game series, some of these levels created have since emerged on various webpages dedicated to showcasing them. One of these is the Repton Continuum site that has tried to compile a list of levels (old or newly created) made in *Repton 3* or *Repton Infinity*.[2] Whilst levels are downloadable and potentially playable on an emulation platform for the Acorn Electron or BBC Micro, the website also displays screenshots of levels that have been uploaded to the site. Levels created for *Repton 3* and *Repton Infinity* feature weather symbols mapping out the game's landscape, football themes, and even attempts to create a top down perspective version of the game. Alongside these there are anecdotes to some of the level creation, such as Dave Jeffrey's levels that include "London" and "Farmdat", which was based on the farm the author lived at. Under images of the levels, the author states, "All the levels were done between 1986 and 1991. There is a level called "TIMOTHY" on the set "SET1" which is the first I ever designed for Repton 3 back on Christmas day 1986". Once again, what these images and the development of such software during the 1980s shows is that player-created content, the ability to change, adapt and play other people's levels associated with gaming practices on microcomputers at the time were prevalent before the world wide web, downloadable content and online connectivity. However, it is these technologies that have subsequently enabled this content to be archived, found and potentially played again.

[2] See Repton Continuum at: http://aw.drobe.co.uk/REPTON/ [last accessed 6 August 2014]

Lessons Learned from Repton

As has been documented throughout this article, by tracing the "topos" of the level editor as a means to use graphical assets to create games, we can see how user-generated content and creativity existed beyond *Doom* and beyond *Little Big Planet*. Similarly, the sharing of content, albeit in an offline space was also platform dependant highlighting the need to recognise the platform in discussions of both games and game histories. By tracing cycles of media production and consumption practices through the example of the level editor, we can also see how, in the case of the Repton series the games that were released continued to draw on the player's ability to not only play new levels, but also create their own. This saw the level editor change from one focused on re-positioning graphical assets to one that also allowed for the integration of new programming languages. In the late 1980s when game play rather than game creation was starting to take the forefront of discussions in microcomputing magazines (Kirkpatrick 2012), we can also see how not all games or magazine articles adhered to this discourse. The development of the Repton series, as often lost in game histories, shows how there was still a desire amongst the game playing public to create their own games and add to the levels already created by the game's creators. *Repton Infinity* in particular responded to this demand, and although uptake was not necessarily widespread amongst owners of micros, this case study provides an alternative history to game creation during this time as so often focused on the "bedroom programmer".

The case study of the *Repton* series also presents an interesting insight into both the history of games in 1980s Britain and the way in which game histories can be uncovered. Moving beyond dominant ideologies of platform use and reception we can see how media archaeology and the tracing of "cultural vessels" (Huhtamo 2011) of the "topos" of the level editor on different platforms expose new insights. Utilising the archive, combined with the recognition of the platform specificity of some game releases, allows for these once neglected or suppressed platforms and the games created on them to be brought to light and into conversation with more recent trajectories of game cultures. As has been shown throughout this article, the archive exists in multiple forms; in print through magazines and instruction manuals, in digital form through ported software packages that emerge to keep game franchises running on different platforms, and online in the form of uploaded content, emulation platforms, and magazine articles. In his discussion of the archive from a media

archaeological perspective, Parikka (2012, p.115) outlines how the archives of technical media and software are "based on both technical processes (software and networks) and social ones (participation and collaboration…)" By drawing on what we can from social processes offered by today's fan communities and those presented in the archive, as well as assessing the platform in terms of technical processes as linked to hardware and software practices we can start to piece together deeper histories of a particular game's functionality. Each of these components of the archive can be used together to build a greater understanding of (other) game histories and how we can start to interpret the life cycle of games through a variety of material available to us. New histories can be exposed in amongst more dominant ones; histories that include a 1980s vision of Play, Create, Share as so often ignored, until today.

References

Anderson, M. and Levene, R. 2012. *Grand Thieves and Tomb Raiders: How British Video Games Conquered the World*. London: Aurum Press Ltd.

Andrews, D., 1986. Repton revisited to good effect. *The Micro User*.

Apperley, T. and Jayemanne, D. 2012. Game studies' material turn. *Westminster Papers in Communication and Culture* 9(1), 5-25.

Bolter, J.D. & Gruisin, R., 2000. *Remediation*, Massachusetts: MIT Press.

Campbell-Kelly, M., 2004. *From Airline Reservations to Sonic the Hedgehog*, Massachusetts: MIT Press.

Donovan, T., 2010. *Replay: The History of Video Games*, Lewes: Yellow Ant.

Edge Staff, 2009. The Making of: Repton. Available at: http://www.edge-online.com/features/making-repton/ [Accessed August 6, 2014].

Dovey, J. and Kennedy, H., 2006. *Game Cultures: computer games as new media*. Maidenhead: Open University Press.

Gazzard, A., 2014. The Intertextual Arcade: Tracing histories of arcade clones in 1980s Britain. *Reconstruction*, 14(1). Available at: http://reconstruction.eserver.org/Issues/141/Gazzard.shtml.

Gazzard, A., 2013. The Platform and the Player: exploring the (hi)stories of Elite. *Game Studies*. 13(2). Available at: http://gamestudies.org/1302/articles/agazzard

Greenhill, S., 1989. Review: The Games Page. *Acorn User*.

Guins, R., 2014. *Game After: A Cultural History of Video Game Afterlife*, Cambridge, MA: MIT Press.

Hac Man, 1988. Play it again...and again. *The Micro User*, 6(10).

Huhtamo, E., 2011. Dismantling the fairy engine: Media archaeology as topos study. In E. Huhtamo & Parikka, Jussi, eds. *Media archaeology: Approaches, applications, and implications*. Berkeley: University of California Press, pp. 27–47.

Jackson, M., 1986. Repton Revisited. *Acorn User*.

Kirkpartrick, G., 2012. Constitutive Tensions of Gaming's Field: UK gaming magazines and the formation of gaming culture 1981-1995. *Game Studies*, 12(1). Available at: http://gamestudies.org/1201/articles/kirkpatrick.

Lean, T., 2008. *'The Making of the Micro': Producers, mediators, users and the development of popular microcomputing in Britain (1980-1989)*. PhD. Manchester: University of Manchester.

Manovich, L., 1998. Navigable Space. Available at: http://manovich.net/index.php/projects/navigable-space.

Montfort, N. & Bogost, I., 2009. *Racing the Beam: The Atari Video Computer System*, Massachusetts: MIT Press.

Morris, S., 2003. WADS, Bots and MODs: Multiplayer Games as Co-Creative Media. In *Level Up Conference Proceedings*. DiGRA. University of Utrecht.

Newman, J., 2008. *Playing with Videogames*, Abdingdon: Routledge.

Nicky, 1987. Repton 3. *Computer and Video Games*.

Parikka, Jussi, 2012. *What is Media Archaeology?*, Cambridge: Polity Press.

Revis, J., 1985. Graphics come pretty basic. *The Micro User*, 3(9).

Riddell, J., 1986. Nasty Newcomers. *The Micro User*, 4(10).

Smith, B., 1985. A Gem of a challenge. *Acorn User*.

Suominen, J., 2011. "Game Reviews as Tools in the Construction of Game Historical Awareness in Finland, 1984-2010: Case MikroBitti Magazine." *Think, Design, Play Digra2011 conference*. Utrecht School of the Arts, Hilversum 14-17 September 2011. DiGRA electronic library: http://www.digra.org/dl/db/11310.15375.pdf

Stuckey, H and Swalwell, M., 2014. “Retro-Computing Community Sites and the Museum”, *The Handbook of Digital Games*, Harry Agius and Marios Angelides (eds), IEEE/Wiley

Stuckey, H., 2014. Exhibiting The Hobbit: A tale of memories and microcomputers. *Kinephanos. History of Games International Conference Proceedings*. Available at: http://www.kinephanos.ca/2014/the-hobbit/

Swalwell, M., 2012. The Early Micro User: Games writing, hardware hacking, and the will to mod. In *Proceedings of DiGRA Nordic 2012 Conference: Local and Global - Games in Culture and Society*.

Tudor, P., 1985. Repton is a sparkler. *The Micro User*, 3(8).

Wade, A., 2007. The State of the Art: Western Modes of Videogame Production. In *Proceedings of Situated Play, DiGRA 2007*. Situated Play, DiGRA 2007. Tokyo.

Wirman, H., 2009. On productivity and game fandom. *Transformative Works and Culture*, 3. Available at: http://journal.transformativeworks.org/index.php/twc/article/view/145/115.

Wolf, M.J.P., 2012. *Before the Crash: early video game history*. Detroit: Wayne State University Press.

Alison Gazzard is a Lecturer in Media Arts and Education at the London Knowledge Lab, UCL Institute of Education, UK. She has published articles on location-based media, videogame spaces and time, and British computer game histories in journals such as Game Studies, Games and Culture *and* Convergence: The International Journal of Research into New Media Technologies. *Her current research interests include platforms, media archaeology, game preservation and the use of archives in game creation.*