

Would you like Games with that Computer? Revisiting early Game History & Culture with the Commodore 64

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ABSTRACT

In this paper, we first document that most video games of the 1980s were published on home computers, and especially on the Commodore 64 (C64), but that home computers have been curiously sidelined in histories of early video games and game culture.

This raises a question: *What was the relation between home computers and games, or between computer and game culture in the 1980s?* Graeme Kirkpatrick's study of UK game magazines argued that game culture became increasingly divorced from technical computer culture during the 1980s. But what does that history look like *from the other side*, through the lens of the C64?

To answer this, we study early advertisements for the C64 and show its promotion as a universal computer – with heavily gendered roles - for the whole family, but downplaying video games.

Then, examining early computer and game magazines, we argue that contrary to what previous research has reported, the late C64 period saw a renewed emphasis on programming as commercial software waned and the demoscene became popular.

Thus, the paper argues that the central role of home computers in early video game history and culture has been neglected, and that game and computer culture continually interacted during the history of the Commodore 64.

Keywords

1980s, home computers, Commodore 64, ads, gender, game culture, computer culture, magazines, demoscene

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THE PROBLEM OF GAMES AND HOME COMPUTERS



Figure 1: *Commodore 64*, 1982 home computer. (Credit: Evan-Amos - Own work, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=17414881>)

Early home computers faced the dilemma of games, and the dilemma could be found everywhere, from hardware design to advertising: Should a computer have color graphics, and should it be able to move graphics quickly and smoothly on the screen? If it had such game-friendly features, should it be promoted on them? Home computers of the 1980s were promoted with promises of both utility and computational literacy, often playing on the fear of missing out, but according to many sources, video game-playing remained a central use of these computers. As Haddon and Skinner says, manufacturers kept an “ambivalent attitude to this development since, while games interest provides a source of stable demand, the predominance of this application limits what some see as the full capabilities and infrastructural identity of this machine” (1991, 443).

METHODS

This was the fundamental problem: Would you like games with that computer? More specifically in this paper: *What was the relation between the C64, games, and programming as represented in German and Anglophonic advertising and magazines, and how were these uses of the computer gendered?*

We will triangulate this using three studies.

1) To understand the role of the C64 in video game history, and vice versa, we gather data about the relative popularity of game platforms from 1977-1990 and compare this to popular histories of video games.

To understand the relation between game and computer culture, we are inspired by Kirkpatrick’s *The Formation of Gaming Culture* (2015), as well as his article on *Constitutive Tensions* (2012) and follow Kirkpatrick’s approach of examining extant material from the time, but we widen the scope to include advertising and non-UK magazines.

2) We study Commodore’s early TV and print advertising for the C64. By many accounts, the C64 was considered a game computer, but what role did games play in promoting the computer? We examine what the computer was advertised as being *for* - and how gender and games were represented.

3) We examine the UK C64 game magazine *Zzap!64*’s coverage of programming and the demoscene, to see if we can replicate Kirkpatrick’s findings of a game culture that diverged from technical culture.

THE MISSING COMMODORE 64, DOMINANT 1980S GAME PLATFORM

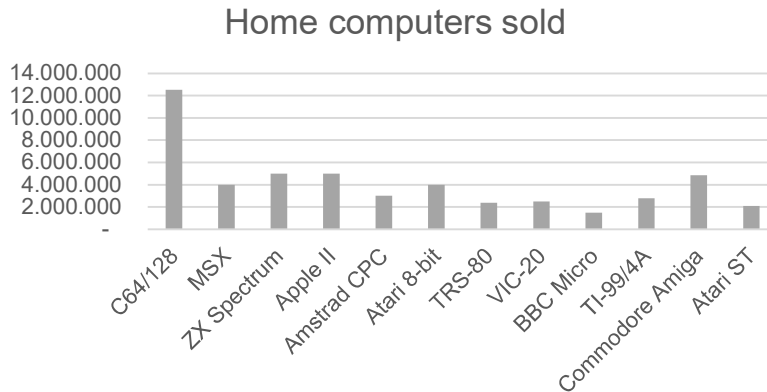


Figure 2: Home computers sold

Several researchers have noted that common video game histories suffer from a blindness, where history becomes reduced to a few successful companies, Nintendo, Sony, Microsoft, Atari, and a few superstar designers. As noted by Melanie Swalwell (2021, 8–9), video game histories have tended to focus on arcades and consoles, and this is especially true for early 1980s video games, where home computers have been marginalized in overview histories, and Europe and Australasia¹ have been correspondingly neglected (Navarro-Remesal and Pérez-Latorre 2021, 15; Wade 2016, 15). We will further demonstrate this, but for now note that the recent book *Fifty Key Video Games* (Perron et al. 2022) includes only one European home computer game from the 1980s.

Conversely, several monographs have studied home computers for which games were considered a central activity, such as the Commodore Amiga (Maher 2012), the BBC Micro (Gazzard 2016), and the Commodore C64 (Dillon 2014). There are also studies of European games (Navarro-Remesal and Pérez-Latorre 2021) and popular histories of the British game industry (Wiltshire 2015), but their insights are rarely included in overview video game histories.

Why study the Commodore 64 specifically? The C64 computer was produced from 1982 to 1994 and is officially the *Best-selling Desktop Computer of all time* according to Guinness Book of World Records (Guinness World Records n.d.),² and while many different sales numbers exist, from 12 to 30 million, it is most likely that 12.5 million units were manufactured (Steil 2011). Because Commodore’s reports do not always distinguish between C64 and Commodore 128 computers, we conservatively lump them together here. Figure 2 shows the relative sales of the most popular home computer platforms,³ with the C64/128 in front, but followed by three platforms around 5 million units – The ZX Spectrum, the Apple II, and the Commodore Amiga, and two platforms around 4 million units – Atari 8-bit and MSX.⁴ The C64 is understood to have been most popular in Europe (Steil 2011), but as late as 1986, Commodore was still the dominant home computer manufacturer in the US with a 31% market share, compared to 15% for Atari, 16% for Apple, and 12% for IBM (Halfhill 1986).

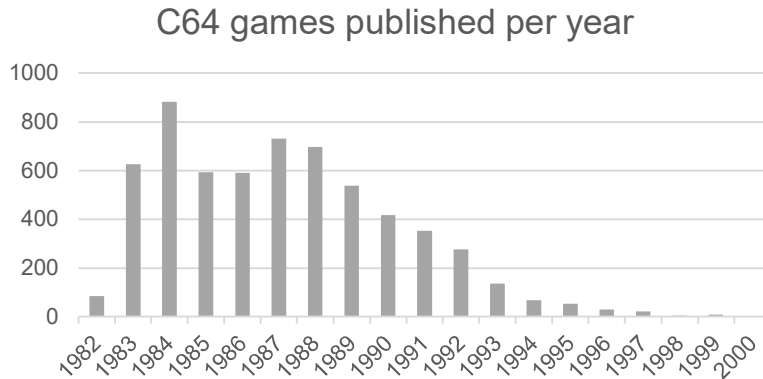


Figure 3: C64 games published per year (data from MobyGames)

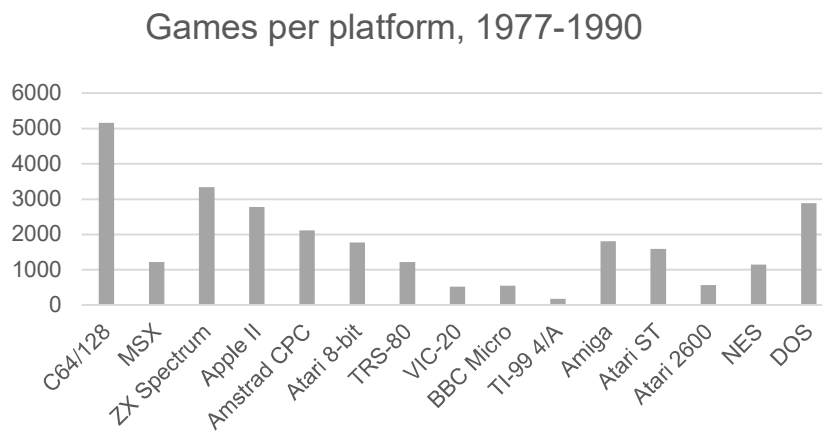


Figure 4: Games published per platform, 1977-1990 (data from MobyGames)

To get a better sense of the role of the C64, we used the MobyGames database to study on which platforms games were published from 1977 when the first mass-market home computers became available, to 1990 when PCs replaced home computers. MobyGames is a now-commercial database of released and distributed games with data entry made by volunteers (MobyGames 2023). It is likely to be incomplete and to favor Western games.⁵ Visualizing yearly game releases (Figure 3), we can see that the C64 game market declined in the early 1990s, which correlates with major magazines ceasing publication from 1992-95. To look beyond home computers, we have also added the Atari 2600, the NES, and DOS, and we see that the C64 is by far the early platform for which most games have been published (Figure 4).

How do these figures match common game histories? Using text search on Steven Kent's *The Ultimate History of Video Games* (2010), we counted 1,009 references to Nintendo, 873 references to Atari, 83 to Commodore (C64 and Amiga), 41 to Apple, 33 to PCs, and 6 to the ZX Spectrum. Kent's history is characteristic of the US version of history which centers on the US *crash* of 1983 and the subsequent entry of Nintendo in that territory. Tristan Donovan's *Replay* (2010) attempts to go beyond that standard history, but still counts 587 references to Atari, 507 references to Nintendo, 311 references to PCs, 122 to Apple, 118 to Commodore, and 33 to the ZX Spectrum. Not that history coverage *must* match the bar charts in Figure 4, or that the number of games published is a measure of *importance*, but there is a staggering discrepancy between the games published and the games covered in common histories.

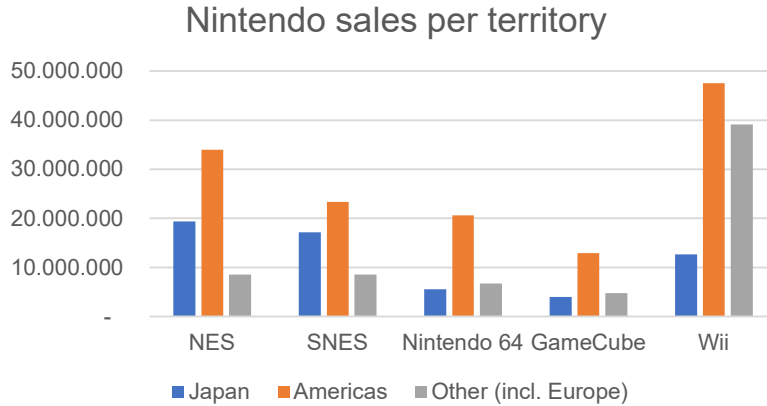


Figure 5: Nintendo sales per consoles and region, based on (Nintendo 2012)

Given the attention common video game histories give to Nintendo, it can also be helpful to understand the relative strength of Nintendo in different territories. Visualizing Nintendo’s own sales figures (Figure 5) we see that sales of both Nintendo Entertainment System (NES, 1986 in Europe) and Super Nintendo Entertainment System (SNES, 1992 in Europe) were modest in Europe compared to Japan and the Americas. (Europe was by far the largest market in the *other* category and North America was the largest market in the Americas.) Also note that the NES was launched a full 4 years after the C64 and ZX Spectrum, which were by then entrenched as the most popular video game devices in Europe. In Europe, it was not until the Wii (2006) that Nintendo achieved the kind of market penetration the NES had had in the US. This explains why Nintendo is often synonymous with early video game history in the US and Japan but is less so in Europe. A UK report shows that video game console software sales did not become significant in the UK before 1991 (Monopolies and Mergers Commission 1995, 66). Nintendo’s early weak sales in Europe were matched by the popularity of home computers, which seem to have allowed early European video game developers unpolished creativity outside corporate control.

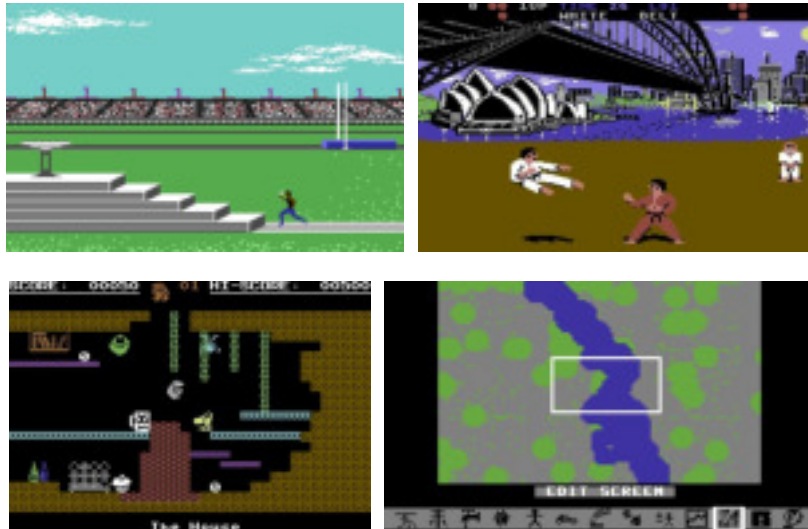




Figure 6: Well-known C64 games. *Summer Games* (Epyx 1984), *International Karate+* (System 3 1987), *Monty on the Run* (Gremlin 1985), *SimCity* (Wright 1989), *Frankie goes to Hollywood* (Denton Designs 1985), *Bozo's Night Out* (Taskset 1984)

Figure 6 shows a range of better-known C64 games, the multi-discipline sports game *Summer Games* (Epyx 1984), the martial arts *IK+* (System 3 1987), *Monty on the Run* famous for its soundtrack (Gremlin Graphics 1985), *SimCity* which Will Wright originally developed on the C64 (Wright 1989), and the *Frankie Goes to Hollywood* game (Denton Designs 1985) as example of how unlikely media IPs were converted into sometimes surreal games. Going over the C64 catalogue, the sheer breadth and strangeness of – especially European - games stands out. There are C64 games about being drunk (*Bozo's Night Out*, Taskset 1984), about mowing a lawn (*Hover Bover*, Llamasoft 1983), and *WarioWare*-like games parodying video game tropes (*Lazy Jones*, Terminal Software 1984). The free-for-all bedroom nature (Caulfield and Caulfield 2014) of early C64 development, where developers would initially duplicate their own games on tapes and floppy disks, and the lack of a centralized authority to decide which games to publish, apparently provided a fertile ground for experimentation. Garda and Grabarczyk have also noted that the *Damsel in Distress* trope of video games with a male protagonist rescuing a passive female, common in Nintendo games, was largely absent on the C64 (Garda and Grabarczyk 2022).

ADVERTISING AN AMBIVALENT GAME COMPUTER

Figure 7: Commodore 64 ads promoting literacy, serious software and, by the way, games

We start in the beginning, before and during the launch of the C64. A 1981 TV commercial for the C64's predecessor, the VIC-20, shows a young man who applies for a job based on his video game prowess but is rejected. The helpful narrator suggests getting a computer instead. "If you're going to spend your time playing video games, why not play them on something that can also teach you about computing? Get a Commodore VIC-20. It's tough to grow up in a computer age without learning about

computers.” (Commodore 1981) Commodore employees would later refer to this as “guilt advertising” (Herd 2022). Computers were generally more expensive than early game consoles like the Atari 2600, but there are numerous anecdotes about children arguing with their parents for getting a Commodore on the *premise* that it would teach them about computation, but with the *intention* of playing games. Some of these anecdotes ironically end with the punchline that the child *did* learn to program, sometimes by programming games. (See for example the opening speech at the C64 25th anniversary, Computer History Museum 2007).

This ambivalence about games continued in early ads for the Commodore 64, which tended to frontload the “serious” side of computing, mentioning literacy and productivity (Commodore 1984c), but with a “by the way” (and perhaps a wink) discuss the C64 as a “brilliant game machine” (Commodore n.d.) (Figure 7). At its launch, the C64 was the computer most explicitly designed with video games in mind alongside Atari’s 8-bit line. Neither Sinclair (with the ZX Spectrum), Apple, or IBM included action game-oriented features in their computers, notably sprites (for moving objects), scrolling (for moving the game world), and raster interrupts (for making graphics update smoothly). Yet the short-lived and home-oriented IBM PCjr (1984) included game-oriented graphics features that IBM’s “serious” PC machines did not have. Why? In 1985, *BYTE Magazine* columnist Bruce Webster first argues that Apple should *never* make a Macintosh with color abilities, then proceeds to discuss IBM’s motivation for not adding proper game abilities to the IBM PC, and assigns IBM motivations similar to his own:

Or perhaps IBM was somehow afraid that making graphics (especially color graphics) a standard feature would “lower” its system to the level of the Apple/Atari/Commodore computers. which most people viewed as **game machines**. (Webster 1985, 408) (my emphasis)

While the Apple II was originally designed with the game of *Breakout* in mind (with sound and paddle controllers) (Wozniak and Smith 2006, 190–91), Apple as a company would distance itself from games. In 1986, Apple chairperson John Sculley puzzlingly assured the public that Apple devices were not *home computers*, but “computers for the home”:

Apple Chairman John Sculley emphatically denied that his company is selling home computers. Apple, he maintained, sells “computers for use in the home.” The distinction, supposedly, is that a home computer is a low-powered, low-end machine primarily suited for playing games, and that a personal computer is more practical and pricey. (Halfhill 1986)

As the *Compute!* magazine journalist surmised, this implied that Apple devices were above mere game-playing. This fear of games shaped the computer industry for many years, and “game machine” was a stigma that had to be avoided.

Games, Gender, and Programming in Television Ads

To understand the initial promotion of the C64, we watched fifty-six extant television ads for Commodore computers, available on YouTube. We do not know how frequently these ads were broadcast, or for how long. It is difficult to determine how our sample may differ from any commercials that have been lost to time.⁶ Therefore, our goal was to watch as many extant commercials as possible. We were from the beginning interested in the role of games in advertising and in the gendering of the computer’s possible uses. We also examined *Compute!’s Gazette*, *BYTE Magazine*, and German *64’er Magazin* for advertisements for Commodore computers as well as compatible third-party peripherals and software. These print ads not only provided another wealth of material from which to gather information, they allowed us to determine whether the

threads we uncovered in the fifty-six television ads were repeated across an entirely different medium and/or audience. We will represent selected exemplars of the thematic patterns identified.

The overall picture was that most C64 early advertising divided computer use into separate categories for men and women.⁷ Where women would be assigned brief interactions with the computer as part of other roles (teaching, retail, or housekeeping), only young men were shown as having sustained computer engagement such as programming or playing non-educational video games. In addition, “serious” uses of the C64, including preparation for future careers, were consistently foregrounded, while games were only mentioned as an aside.

Take the now iconic Australian ads for the Commodore 64 that we will refer to as the “Keeping Up with the Commodore” commercials (Commodore 1983a). These advertisements feature an upbeat and catchy jingle centered around the refrain, “Are you keeping up with the Commodore? Because the Commodore is keeping up with you,” a slogan that positions the Commodore 64 and the prospective computer user as collaborators in a cycle of mutual inspiration and innovation. It also, however, infuses this relationship with a sense of anxiety, as refusing to participate in this cycle by “keeping up” with Commodore’s products leaves one at risk of falling behind technologically, academically, and socioeconomically. Each commercial in this series consists of a combination of clips with the following pattern: a person interacts with a Commodore 64, then turns to the camera, smiles, and salutes. These clips of Commodore users are intercut with footage of people (typically young women, as will be elaborated on below) enjoying themselves outdoors, often without the presence of a computer of any kind.



Figure 8: Four white businessmen from an Australian ad for the Commodore SX-64. (Commodore 1984a)

Nearly all the Commodore 64 users in these commercials are white businessmen (Figure 8), and of the two (also white) women shown using a computer, neither appear to be typing. The first, a young woman in a clothing store, presses a single button to populate a cell in her (hot pink) spreadsheet before turning away from the monitor (Figure 9). The second, an elementary school teacher, presses a key twice to bring up an image of Saturn for her class (from the *Visible Solar System* cartridge). Although both women are portrayed as confident computer users, they do not interface with the machine itself for more than an instant or two, during which they perform only the simplest possible action(s) before turning their backs to the computer and smiling. In the “Keeping Up with the Commodore” ads, most of the women are shown in other contexts, most commonly while bikini-clad. In fact, of the ads we surveyed, there are twice as many women shown in bikinis as there are shown interacting with a Commodore computer at all. By contrast, several of the male computer users spend many seconds typing, focusing intently on the monitor, and only turn to face the camera after they have completed their more complicated work. The female computer users engage with technology limited in complexity and duration, strictly in gendered

professional settings (including custom pink interfaces), while male computer users are virtually all depicted as having more substantial and skillful relationships with the same machine. One of the “Keeping Up with the Commodore” commercials feature a prolonged close-up of BASIC commands rapidly climbing up a monitor. The camera then slowly pulls out to reveal a teenage boy typing away at his Commodore 64, pen and paper at his side (Figure 10). A book entitled “Background to Careers,” rests on top of his monitor, implying that even though this boy is not presently using his computer professionally, his computer usage is a means of preparing for his financial and vocational future.



Figure 9: Woman with a pink spreadsheet.
(Commodore 1983a)



Figure 10: A teenage boy programming in BASIC.
(Commodore 1983a)

Fear of Games

The “Keeping Up with the Commodore” commercials conspicuously do not depict or mention video games. Of the other ads we examined, the vast majority reference the Commodores as game-playing machines only as an aside. In his doctoral thesis about the 1970s and 1980s home computer market, Leslie Haddon notes that games were imagined having the power to alter children’s development to turn them into isolated, anti-social malcontents (1988, 210), de-sensitize them to violence (1988, 211), and render them helplessly addicted to machines.

In other words, if Commodore wanted to sell a family computer, they would have to address these anxieties and, ideally, position their product as unique amongst its competitors in its ability to improve and protect, rather than harm, a child’s mind. One tactic for this appears to be differentiating Commodore computers from “toys,” or video game machines. Haddon argues that many parents bought microcomputers “at the request of children” (1988, 273), and given widespread concerns about these machines’ ability to harm young minds, it makes sense to ensure that the C64 remains appealing to the child who wants to play video games, while simultaneously reassuring parents that computers are essential for children who wish to excel financially and academically in a rapidly changing world. Numerous Commodore ads address the necessity of preparing one’s children for their future education by purchasing a computer, including one that asks, “How old should your child be before you buy a computer” (Commodore

1983b), cautioning against the dangers of letting a child “fall behind” while cycling through footage of Commodore users at progressively younger ages, culminating in a clip of a baby sitting in its mother’s lap.

The Commodore 64 in Print: “Do You Know Where You Are?”

The tactic of inducing, and remedying, anxiety about technological change is executed more subtly in print ads that depict the computer’s new, shifting place within the home. For example, one US magazine ad for the C64 attracts the attention of anxious parents by breathlessly parodying the infamous “Do you know where your children are?” public service announcements employed on US television in the 1960s through 1980s. Underneath a series of eight photos depicting different members of a family using the computer throughout the day, the ad copy begins: “It’s 6 a.m. Do you know where your husband is? It’s 8 a.m. Do you know where your daughter is? It’s 11 a.m. Do you know where you are?”(Commodore 1985) (Figure 11) From context, and by process of elimination, the “you” whom this ad is speaking to must be a wife and mother. This copy, accompanied by the headline, “We promise you won’t use the Commodore 64 more than 24 hours a day,” does not attempt to deny the accusation that computers are addictive, pervasive machines that promote self-isolation. Instead, it validates and capitalizes upon a mother’s assumed concern for her family’s well-being by presenting the same addictive and isolating qualities of the machine as the very solutions to her concern—because the Commodore 64 is so endlessly useful and appealing, it ensures that the entire family remains safely, and happily, within the walls of the home throughout the day and night.



Figure 11: A family of Commodore 64 users.
(Commodore 1985)

In this ad, the computer is used and enjoyed by each family member in equal amounts, albeit for different purposes. The consistently framed, repetitive nature of the images further reinforces the idea of a family’s computer as a comfortable and predictable part of the family’s lives, equally belonging to all its members. The C64 has the power to disrupt and radically transform lives, but it will meet the unmet needs of each family member without damaging sacrosanct familial structures. Jesse Adams Stein has similarly critiqued Apple’s print advertisement for their yet-unreleased personal computer, arguing that “Apple’s marketers struggled to present a kind of mythical normalcy in which an entirely new form of technology was being used in a domestic context” (Stein 2011, 205). It is worth noting that the only video game user in the C64 ad is the boy, with the two girls using educational software.⁸ This can be compared to a study of 1980s UK game advertising, showing that during the 1980s game advertising

came to define gaming as masculine (Kirkpatrick 2017). The gendering of games was already present in early C64 ads.



Figure 12: 1984 German print ad: who introduces you to the wonderful world of science?

These were US and Australian ads. National Commodore distributors generally made their own advertisements, usually with a similar bracketing of games. A 1984 German print ad (Figure 12) in *64'er Magazin* asks “Who introduces you to the wonderful world of science? – Commodore Computer” (Commodore 1984b). It extols how you can learn astrophysics, biology, chemistry, languages. You can also organize your data, addresses, or record collection. You can even use it for playing video games, it says in the end.

The consistent pattern across these ads is one of confirming existing familial and professional order, while at the same inducing a fear of change, of children’s future, and of general falling behind, a fear that can then be eased by buying a C64. Within that, it is consistent that women are seen as using the computer for well-defined roles such as retail or home budgets, while men are seen both programming computers and playing non-educational games on them.

SEEING EARLY GAME CULTURE IN MAGAZINES

So much for the early promotion of the C64. If the C64 – and home computers in general – were promoted primarily as universal devices for utility and computational literacy, we have seen that the literature paints a picture of computers where a dominant use was game-playing. In his influential study of UK video game magazines, *The Formation of Video Game Culture*, Graeme Kirkpatrick identified a shift in game culture the mid-1980s. In early UK game and computer magazines, video games were seen as a kind of software, and reviews would often refer directly to programming, but during the 1980s, according to Kirkpatrick, games became separated from software, and game reviews ceased to employ technical language, though still evaluating games on technical merits more broadly (2012). In Kirkpatrick’s data, *gameplay* becomes emblematic for a language, and a *cultural field* in sociologist Pierre Bourdieu’s sense: game culture tries to become separated from computer culture, or at least presents itself in opposition to it, by developing its own language for talking about games. Using terms such as *gameplay* shows that you belong to game culture; discussing games as software show that you don’t belong. Kirkpatrick looks at the game-specific *Computer and Video Games* (CVG), 1981-1995, and at the general *Commodore User Magazine*, 1983-1990/95. As Kirkpatrick describes it:

After 1985 ... gameplay is opposed to things like graphics, character, plot and so on. Gaming discourse secures its autonomy partly by articulating gameplay as a term that is opposed to other elements of gaming experience ... The true gamer... is the player who is interested in *games* and not

computers; *gameplay* and not stories, and graphics in so far as they reward good play. (Kirkpatrick 2012)

There is a logic to the argument in Kirkpatrick's data, and it is true in the positive sense that early game reviews were using terms like "programming," and such appraisals gradually disappears (2015, 14).

Adrienne Shaw (2010) Shaw notes that even by *attempting* to define video game culture, we are setting ourselves up for a conclusion that game culture is separate from mainstream culture – or from computer culture, we will add. In our approach, we have chosen to read a broader range of magazines, cover a longer time frame, and to look at technical articles in further detail. In this, we find signals that do not coincide with the trajectory of game-computer separation that Kirkpatrick identified.

Zzap!64 – the Game-only Magazine that became Technical



Figure 13: Inaugural issue of the UK *Zzap!64*; editorial declaring independence from other platforms and computing culture; *Compute!'s Gazette*; *64'er Magazin*

Our primary focus is on the UK C64 game magazine *Zzap!64* (1985-1992/94), but we have also sampled US Commodore computer magazine *Compute!'s Gazette* (1983-1994) and German computer magazine *64'er Magazin* (1984-1994) to understand which, if any, patterns are country- or magazine-specific (Figure 13). We have selected these because they represent three large territories of the C64, and because they approach the C64 from different angles, and represent different commercial trajectories of the platform. By some accounts, Germany and the UK were the two countries where most C64s were sold (Tytschenko 2014).

Let us examine *Zzap!64* first. We have read all 107 issues of the magazine and its successor, *Commodore Force*, noting the existence of technical columns and discussions of programming and technical culture. Because we are interested in the relation between home computers and games, technical column is here defined in two ways 1) a column that describes *how* to program something, as opposed to just a listing to type in or a review, and/or 2) referencing the technical culture of *emos*. In combination, these allow us to note whenever the magazine refers to technical culture rather than (or in addition to) game culture.

The early ads painstakingly emphasized the C64 as a *computer* with many useful applications, and only mentioned games as footnotes. But three years after C64's release, in 1985, it became possible to discuss the C64 as being fundamentally *about* games. In the inaugural issue of *Zzap!64* (Figure 13), editor Chris Anderson explains the need for a magazine focused *only* on the C64, and *only* on games:

Until now Commodore 64 fun-lovers in search of a good read have had to choose between the general games magazines (and put up with boring

stuff about Spectrums, etc) and the oh-so-serious Commodore magazines (and put up with pages of complex computer jargon written by unintelligible boffins).

Which is strange, because by far and away the most common use of a 64 is running the superb games and entertainment software available for it. (Anderson 1985)

Supporting this, *Zzap!64* promised readers that they *would not* find “Type-in program listings”, common in the day as a software distribution method, where readers would have to type in programs covering sometimes dozens of pages. *Zzap!64* thereby also marks a shift away from C64 users being introduced to programming by typing in programs, to C64 users as consumers of packaged software.

Similarly, in 1986, a *Compute!’s Gazette* article comes as far as discussing “The 64 As A Game Machine” but feels it necessary to address the stigma attached to game machines.

Despite the fact that the microcomputer industry got much of its start from the early arcade-game machines and that millions of people bought VCS (video cartridge system) games, many computer users today reserve the term *game machine* as an epithet for a computer with little power. (Yakal and Bateman 1986)

At first, these two articles support the trajectory outline by Kirkpatrick, but a further reading show the opposite trajectory.



Figure 14: *Zzap!64* technical column of the kind the editor originally promised not to carry; the resulting program

Less than a year after launch, a regular *Zzap!64* column appeared about *CompuNET*, a UK online service. This first February 1986 column discusses C64 art found on CompuNET, but by August 1986, the column begins to discuss the category of *demoes* that show off C64 and/or programming and design skills. *Demoes* were (and are) programs from the then-burgeoning *demoscene* (Polgár 2005) (Tasajärvi 2004) (Botz 2011), a technical subculture where participants create software showing off programming skills, graphics, music, and new tricks for exploiting the hardware of relevant computers. By most accounts, the early demoscene was centered in Northern Europe, on the C64, with the vast majority of participants young men (Hege 2003). In the common telling, the demoscene grew out of, and distanced itself from, illicit activities of cracking software and general piracy, mostly of games, but in practice, the demoscene retained a connection to piracy until the 1990s at least (Reunanen 2014).

Alongside coverage of demoes, an irregular column, “Gary’s Technical bit in the middle” appeared, reviewing hardware and technical additions like *Final Cartridge*

which not only speeds up disk access but also allows for programming. The August 1986 issue reviewed the *Laser Genius* assembler for programming C64 machine language (Liddon 1986), meaning that just over a year after the declaration of a pure game magazine, fully fledged programming discussions were in the magazine. The August 1987 issue discusses “Transporting Sprites Across the Border” (Liddon 1987), helpfully explaining the trick in technical language (“clear bit 4 of \$D011 at raster position \$F9”), with the result shown in Figure 14. This was not the stated intention of original editor Chris Anderson. As a comparison, *Compute!’s Gazette* published a similar program, “Impossible Scroll” in September of the same year (Kelly 1987).

The following years saw an on/off relation to demoscene for *Zzap!64*. The CompuNET column stopped, was restarted as “Logon,” running from August-December 1988, demos were then largely absent in 1989-1991, but occasional technically oriented articles would appear, like the October 1989 “Charley Knight Mega-Muzik Routine” (n.a. 1989) article about how to hack (play) the music from 41 different games. There were also interviews with game programmers and development diaries.



Figure 15: *Commodore Force* “Games Guru” column, October 1993

From June 1992, through July 1993, (including the name change to *Commodore Force* in late 1992) demos returned to the magazine and were discussed every month, and the demoscene was described with awe and perhaps in aspirational terms. In the July 1993 issue *Commodore Force* covered demos for the last time, but instead a new “Games Guru” column appeared that introduced readers to core C64 programming features like sprites and raster interrupts (Figure 15). So, the magazine that started by rejecting programming ended with a regular programming column.

Of course, this raises the question what exactly we are identifying by reading a magazine over time. We have used magazines as a measurement for reader interests (Kirkpatrick 2015, chap. 3). Clearly, a magazine shapes discourse and culture, while also being influenced by it. But given that there are many magazines, each magazine only speaks to a subset of all users, and probably not in a one-to-one relation to how these users experience their own identity. Likely though, each magazine reflects changes in its reader base over time. That *Zzap!64* discusses demos and programming reflects a belief that part of the game-oriented readership was also interested in demoscene culture and programming.

As a comparison, German *64'er Magazin* was a general magazine like *Compute!’s Gazette*, but with a more consistent technical focus in combination with game reviews.

During the 1990s *64'er* would report breathlessly, and in much more detail than *Zzap!64*, on the demoscene (Hartung 1995) and show assembly language examples of how to program the machine and recreate the latest tricks. As a broad observation, we can see that the demoscene had a level of coverage in the European magazines that was not present in the US magazine.

CONCLUSIONS

Using data from MobyGames, we showed that most video games from 1977 to 1990 were published on home computers, and that the C64 was the platform of the era for which most games were published. This is clearly not reflected in existing video game history which seems to have been retroactively “Nintendoized.” Furthermore, we were able to gauge the commercial life of the C64 as a game platform in more detail.

Commodore’s early advertising included men and women but consistently assigned our two subjects – games and programming – to men, meaning that games on home computers were doubly gendered. Though Commodore later bundled the C64 with games in some territories, early C64 advertising mentioned video games only in passing, while giving hints that the machine had abilities for games. This was a kind of *double coding*, acknowledging to children or playful adults that games were a central use of the computer, while also distancing the computer from games such that the purchasing decision could be justified.

Having examined these magazines, we are less sure that early game culture gains quite the autonomy from computer culture that Kirkpatrick’s strongest formulations suggest. Kirkpatrick acknowledges that game culture is defined by a number of unresolved “constitutive tensions”, including in the relation to technology (2015, 127), and describes game culture as a *field* that can contain such tensions and contradictions. Still, our reading of *Zzap!64* is at odds with his strongest claims about the autonomy of game culture such as “The true gamer... is the player who is interested in games and not computers; gameplay and not stories, and graphics in so far as they reward good play” (Kirkpatrick 2012). It is true that the evaluation criteria in reviews change from 1982-1988 (Kirkpatrick 2015, 63), but if we look at the late 1980s and early 1990s, *Zzap!64* retained separate scores for “graphics” and “sound” from 1985 to 1994, and reviewed the *Die Hard* game (based on the movie) by appreciating the connection to the movie and the technical process behind the images, explaining, “I like the way progress is rewarded by digitized pictures of your successful actions” (n.a. 1990). Theoretically, our conclusions may depend on how broad we think a *field* can be. But more pragmatically, Kirkpatrick’s study identifies the initial independence of games from technical culture that the inaugural *Zzap!64* magazine expressed, whereas our study of *Zzap!64* shows the opposite trend, a later history where programming and technical subjects become increasingly integrated in game culture from 1985 to 1994, and where interviews with game developers include the technical details that reviews no longer mention, “I made six demos and then chose the best one – a sprite multiplexer for the background, with the Lemmings ‘bobbed’ in characters.” (Bannon 1993) It may also be that a magazine can contain two variations of a field, as game reviews had dispensed of many technical details, all the while the magazine as a whole increasingly presented a version of C64 game culture where programming was integral.

In the big picture, the difference in outcome from Kirkpatrick’s study may come from three sources 1) we have looked at more types of material and from different countries, 2) we have looked at a computer platform with a specific history due to the demoscene, 3) we are examining a longer timeframe than Kirkpatrick, including the late 1980s and early 1990s, where a technical C64 culture appears to have gained traction.

We can therefore see that 1980s European video game (and computer) history and culture have been neglected through two mutually reinforcing oversights: 1) Because early European game history is largely home computer-based, it is neglected in US and Japanese histories that by default focus on consoles, and 2) Because the popular European computers (C64, ZX Spectrum, Amstrad) were less common outside Europe, even global histories of computing neglect European and Australasian game and computer history.

We have pointed to an alternative understanding of early computer and game history, identifying the platforms for which most early games were made, showing how early C64 advertising had clear gender roles for both programming and games, but also an ambivalence about games, and showing how early especially European video games were closely tied to computing and technical culture. By this we hope to have contributed to a better understanding of the C64, of early video games, and of early video game culture.

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BIBLIOGRAPHY

- Anderson, Chris. 1985. "Welcome to the First Issue of Zzap!64." *Zzap!64*, 1985.
- Bannon, Roy. 1993. "The Making of Lemmings (1 of 3)." *Commodore Force*, September 1993.
- Botz, Daniel. 2011. *Kunst, Code und Maschine: Die Ästhetik der Computer-Demoszene*. 1st edition. Bielefeld: transcript.
- Caulfield, Anthony, and Nicola Caulfield, dirs. 2014. *From Bedrooms to Billions*. <http://www.frombedroomstobillions.com/from-bedrooms-to-billions>.
- Commodore, dir. 1981. *VIC-20 Job Interview TV Commercial*. <https://www.youtube.com/watch?v=BZvJzB7ezBY>.
- , dir. 1983a. *Are You Keeping Up with the Commodore?* <https://www.youtube.com/watch?v=5uaYHYs4ubw>.
- , dir. 1983b. *Commodore 64 "How Old Should Your Child Be before You Buy a Computer" TV Commercial*. <https://www.youtube.com/watch?v=gGx6PWeBm2c>.
- , dir. 1984a. *Are You Keeping up with the Commodore? (SX-64)*. <https://www.youtube.com/watch?v=95cGh9EeMIY>.
- . 1984b. "WER ENTFÜHRT EUCH IN DIE WUNDERWELT DER WISSENSCHAFT?" *64'er Magazin*, April 1984.
- . 1984c. "HOW TO BECOME COMPUTER LITERATE." *BYTE Magazine*, August 1984.
- . 1985. "WE PROMISE YOU WON'T USE THE COMMODORE 64 MORE THAN 24 HOURS A DAY." *Commodore Microcomputers*, January 1985.
- . n.d. "Commodore Print Advertising." Edited by Computer History Museum. <http://s3data.computerhistory.org/brochures/commodore.commodore64.1982.102646264.pdf>.
- Computer History Museum, dir. 2007. *Commodore 64—25th Anniversary Celebration*. <https://www.youtube.com/watch?v=NBvbsPNBIyk>.
- Denton Designs. 1985. *Frankie Goes to Hollywood: The Computer Game*. Ocean (C64).
- Dillon, Roberto. 2014. *Ready: A Commodore 64 Retrospective*. Springer.
- Donovan, Tristan. 2010. *Replay: The History of Video Games*. Lewes, East Sussex: Yellow Ant.
- Epyx. 1984. *Summer Games*. Epyx (C64).

- Garda, Maria B., and Paweł Grabarczyk. 2022. "But Our Princess Is on Another Platform..." In *Proceedings of DIGRA 2022: THE 14TH DIGITAL GAMES RESEARCH ASSOCIATION CONFERENCE*. Kraków, Poland.
- Gazzard, Alison. 2016. *Now the Chips Are Down: The BBC Micro*. Platform Studies. Cambridge, MA, USA: MIT Press.
- Gremlin Graphics. 1985. *Monty on the Run*. Gremlin Graphics (C64).
- Guinness World Records. n.d. "Best-Selling Desktop Computer." Guinness World Records. Accessed May 6, 2022. <https://www.guinnessworldrecords.com/world-records/72695-most-computer-sales>.
- Haddon, Leslie. 1988. "Electronic and Computer Games, the History of an Interactive Medium." *Screen* 29 (2): 52–75.
- Haddon, Leslie G. 1988. "The Roots and Early History of the British Home Computer Market: Origins of the Masculine Micro." Ph.D., Imperial College London (University of London). <http://hdl.handle.net/10044/1/7198>.
- Haddon, Leslie, and David Skinner. 1991. "The Enigma of the Micro: Lessons from the British Home Computer Boom." *Social Science Computer Review* 9 (3): 435–49. <https://doi.org/10.1177/089443939100900305>.
- Halfhill, Tom R. 1986. "The MS-DOS Invasion: IBM Compatibles Are Coming Home." *Compute!*, December 1986.
- Hartung, Matthias. 1995. "Szene Inside." *64'er Magazin*, March 1995.
- Hege, Nordli. 2003. "The Gathering—Computer Parties as Means for Gender Inclusion." IST-2000-26329 SIGIS. European Commission.
- Herd, Bil, dir. 2022. *Albert Charpentier Discusses the VIC Chip and the Design of the Commodore C64 w/Bil Herd and Ben Jordan*. <https://www.youtube.com/watch?v=JeGCC2Kqgik>.
- Kelly, J. 1987. "Impossible Scroll." *Compute!'s Gazette*, September 1987.
- Kent, Steven L. 2010. *The Ultimate History of Video Games: From Pong to Pokemon and beyond...the Story behind the Craze That Touched Our Li Ves and Changed the World*. 1st ed. New York: Three Rivers Press.
- Kirkpatrick, Graeme. 2012. "Constitutive Tensions of Gaming's Field: UK Gaming Magazines and the Formation of Gaming Culture 1981-1995." *Game Studies* 12 (1). <http://gamestudies.org/1201/articles/kirkpatrick>.
- . 2015. *The Formation of Gaming Culture*. Basingstoke, UK: Palgrave Pivot.
- . 2017. "How Gaming Became Sexist: A Study of UK Gaming Magazines 1981–1995." *Media, Culture & Society* 39 (4): 453–68. <https://doi.org/10.1177/0163443716646177>.
- Liddon, Gary. 1986. "The Genius of Amplified Light." *Zzap!64*, July 1986.
- . 1987. "Transporting Sprites Across the Border." *Zzap!64*, August 1987.
- Maher, Jimmy. 2012. *The Future Was Here: The Commodore Amiga*. Cambridge, MA: The MIT Press.
- MobyGames. 2023. "MobyGames Standards." MobyGames. 2023. <https://www.mobygames.com/info/standards/>.
- Monopolies and Mergers Commission. 1995. "Market Size and Market Shares. Video Games. A Report on the Supply of Video Games in the UK."
- n.a. 1989. "THE CHARLEY KNIGHT MEGA-MUZIX ROUTINE." *Zzap!64*, October 1989.
- . 1990. "Die Hard Review." *Zzap!64*, July 1990.
- Navarro-Remesal, Víctor, and Óliver Pérez-Latorre, eds. 2021. *Perspectives on the European Videogame*. Amsterdam: Amsterdam University Press. <https://www.aup.nl/en/book/9789463726221/perspectives-on-the-european-videogame>.
- Nintendo. 2012. "Nintendo Co., Ltd. Consolidated Sales Transition by Region." http://www.nintendo.co.jp/ir/library/historical_data/pdf/consolidated_sales_e1209.pdf.

- Nishi, Kazuhiko. 2020. “[Legendary PC MSX] The Creator Finally Reveals the ‘Essence of Failure’ [Translation].” *Diamond Online* (blog). December 26, 2020. <https://diamond.jp/articles/-/253320>.
- Perron, Bernard, Kelly Boudreau, Mark J. P. Wolf, and Dominic Arsenault, eds. 2022. *Fifty Key Video Games*. 1st edition. New York, NY: Routledge.
- Polgár, Tamár. 2005. *Freax: The Brief History of the Computer Demoscene*. Winnenden: CSW-Verlag.
- Reimer, Jeremy. 2005. “Total Share: 30 Years of Personal Computer Market Share Figures.” *Ars Technica* (blog). December 15, 2005. <https://arstechnica.com/features/2005/12/total-share/>.
- Reunanen, Markku. 2014. “How Those Crackers Became Us Demosceners.” *WiderScreen* 17 (2). <http://widerscreen.fi/numerot/2014-1-2/crackers-became-us-demosceners/>.
- Shaw, Adrienne. 2010. “What Is Video Game Culture? Cultural Studies and Game Studies.” *Games and Culture* 5 (May): 403–24.
- Steil, Michael. 2011. “How Many Commodore 64 Computers Were Really Sold?” *Pagetable.Com* (blog). February 1, 2011. <https://www.pagetable.com/?p=547>.
- Stein, Jesse Adams. 2011. “Domesticity, Gender and the 1977 Apple II Personal Computer.” *Design and Culture* 3 (2): 193–216. <https://doi.org/10.2752/175470811X13002771867842>.
- Swalwell, Melanie. 2021. *Homebrew Gaming and the Beginnings of Vernacular Digitality*. Game Histories. Cambridge, MA, USA: MIT Press.
- System 3. 1987. *International Karate+*. System 3 (C64).
- Tasajärvi, Lassi. 2004. *Demoscene: The Art of Real-Time*. Even Lake Studios.
- Tytschenko, Petro. 2014. Petro Tytschenko - Interview #9. <http://archive.org/details/PetroTytschenkoSceneWorldInterview9>.
- Wade, Alex. 2016. *Playback – A Genealogy of 1980s British Videogames*. London: Bloomsbury. <https://www.bloomsbury.com/uk/playback-a-genealogy-of-1980s-british-videogames-9781628924862/>.
- Webster, Bruce. 1985. “Microcomputer Color Graphics - Observations.” *BYTE*, December 1985.
- Wiltshire, Alex, ed. 2015. *Britsoft: An Oral History*. First Edition. London: Read-Only Memory.
- Wozniak, Steve, and Gina Smith. 2006. *IWoz: Computer Geek to Cult Icon: How I Invented the Personal Computer, Co-Founded Apple, and Had Fun Doing It*. New York: W. W. Norton & Company.
- Wright, Will. 1989. *SimCity*. Maxis (C64).
- Yakal, Kathy, and Selby Bateman. 1986. “The 64 As A Game Machine.” *Compute!’s Gazette*, December 1986.

ENDNOTES

¹ Our primary focus is on European history, but its close relation to Australasian history would merit further investigation. See for example (Swalwell 2021).

² It would be more precise to say that the C64 was the best-selling *consumer-oriented computer* between 1977 (when the first consumer computers were launched) and roughly 1990 (when the PC became dominant even in the home). See also (Reimer 2005) for an analysis of comparative market shares.

³ *Home computer* here refers to platforms targeted at home use, unlike today where common platforms are found both in the home and in professional settings. For this reason, we do not include sales of DOS or PC machines, also given that we have no independent sales figures for the home. For MSX and C64, recent sources have downgraded earlier sales figures, but for the other platforms, we are using current Wikipedia figures as a proxy for current consensus on sales figures.

⁴ Like with other platforms, there are conflicting figures for MSX sales. We refer to recent Japanese sources which put the figure at 4 million (Nishi 2020).

⁵ *GameBase64* lists 30,000 games for the C64, including non-published and hobbyist games.

⁶ Since the ads were uploaded by individual users, the sample likely favors large territories and fondly remembered ads.

⁷ Gender – and gender roles - are strictly binary in the material.

⁸ We understand the *Viduzzles* puzzle game the younger child is playing to be standing for education or at least cognitive development.