EDGE presents

RETRO

£5

THE GUIDE TO CLASSIC VIDEOGAME PLAYING AND COLLECTING

Y ou go out to the pub and meet up with friends. "How are you getting on with *Vice City*?" asks one. You explain that you've made good progress, and that you really like its numerous wink-to-camera references to the legendary gangster flicks everyone in the room has seen. "Yeah, I love that bit that looks like the set from 'Scarface'," someone offers. Gangster flicks: a topic that's thrown around between groups of friends all the time.

But twist it another way.

"How are you getting on with *Vice City*?"

"Yeah, it's great."

"Yeah, isn't it? What's your favourite radio station? I love Wave."
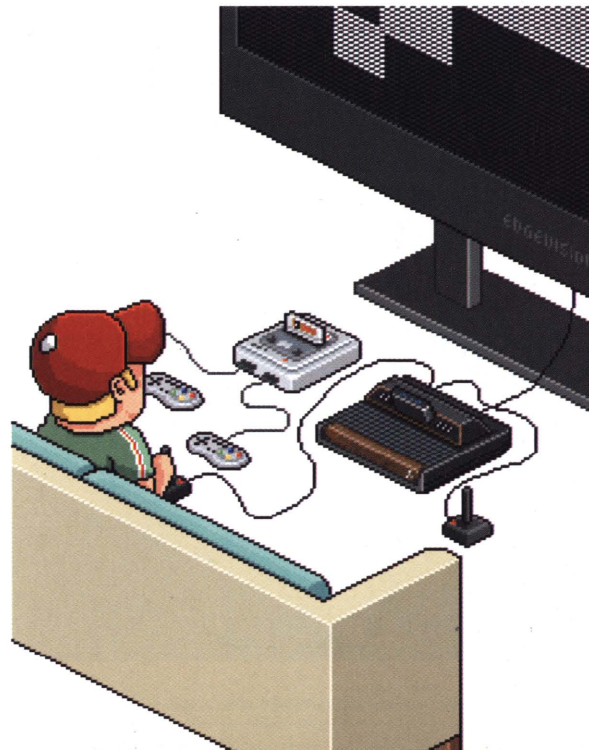
"Mmm. It's really frustrating sometimes, though."

"What do you mean?"

"Well, the fact that cars can disappear is a little bit annoying. And the AI's occasionally a bit odd. And it's crashed a few times, too. I mean, for all the progress, with all the characters and the other elements and what have you, it can be pretty messy. I mean, it's not like, say, the world of *Exile*. It's just a bit… broken."

And there is silence. No one wants to talk about old games. 'The King Of New York', with that turn by Christopher Walken that made you feel a little uneasy whenever he walked into a room? Yeah, wasn't that just the most intense thing? Sure, yeah, wow, amazing. What about the genius correlation of the Light and Dark worlds in *Zelda III*? Uh, yeah… So who wants a drink, then?
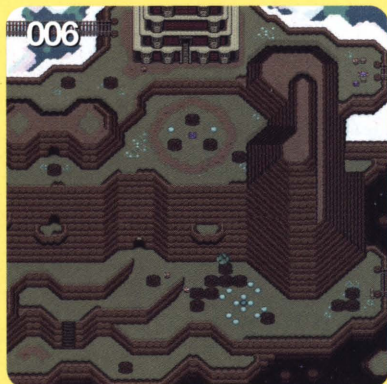
Unlike other forms of entertainment, the history that belongs to videogaming is routinely overlooked, for various reasons, but this **Edge** special is devoted to recognising and celebrating it.

Trading, collecting, retro audio and on and on – everything is covered. If only Walken had ever been in a Speccy game…

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Capcom's *Steel Battalion* controller isn't the first mammoth add-on: in the early '90s, NEC prototyped the Power Console, a device for use with the PC Engine, complete with a selection of switches, a digital clock, and numeric keypad

Irregulars

Features

Retro editor Tony Mott was born the same year Atari gave birth to the first commercial coin-op, *Computer Space*: 1971. Both were ahead of their time but are now beginning to show signs of age

The big picture

The Light World

From: *Zelda III: A Link To The Past*
Format: SNES
Release date: 1992
Publisher/developer: Nintendo

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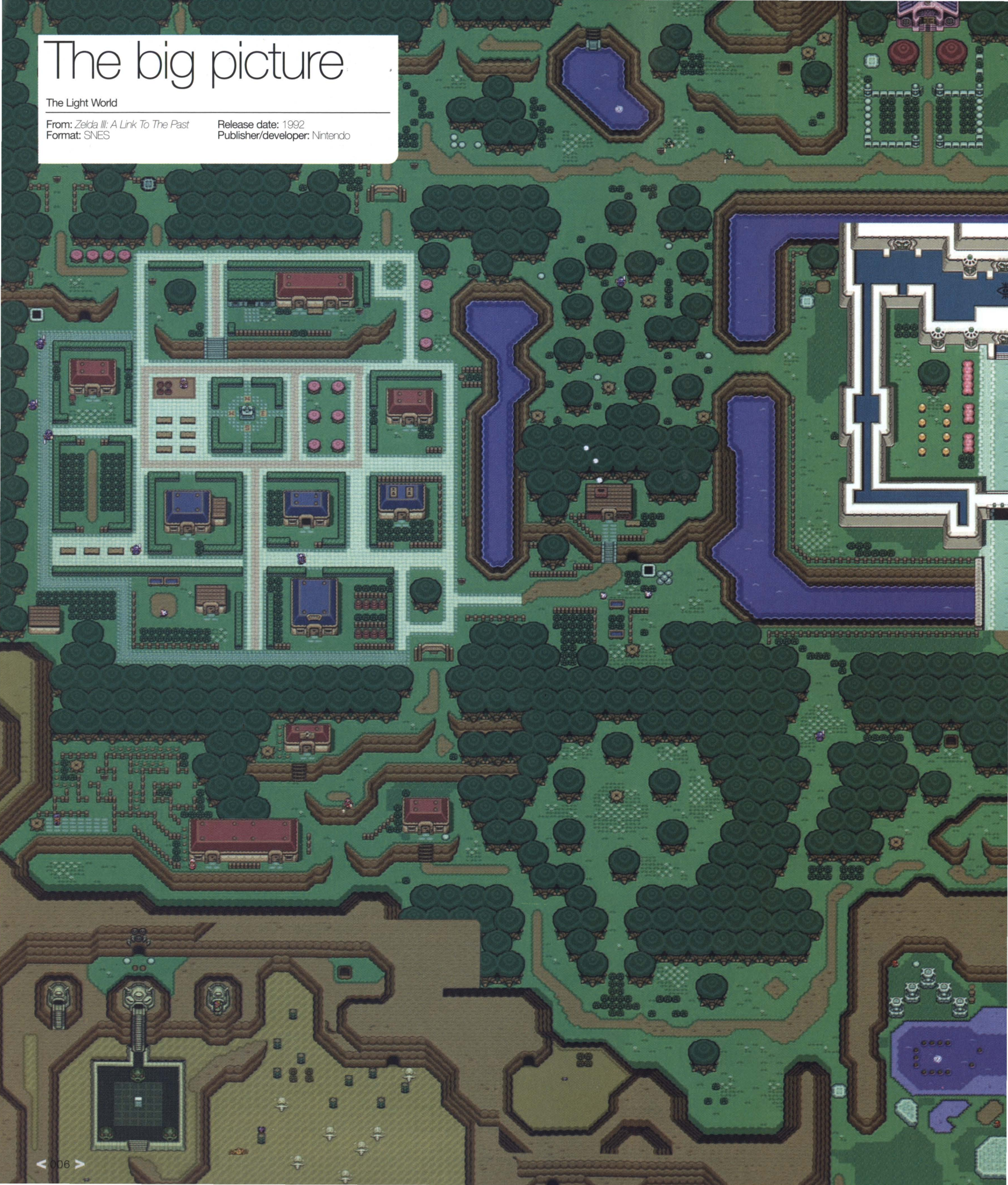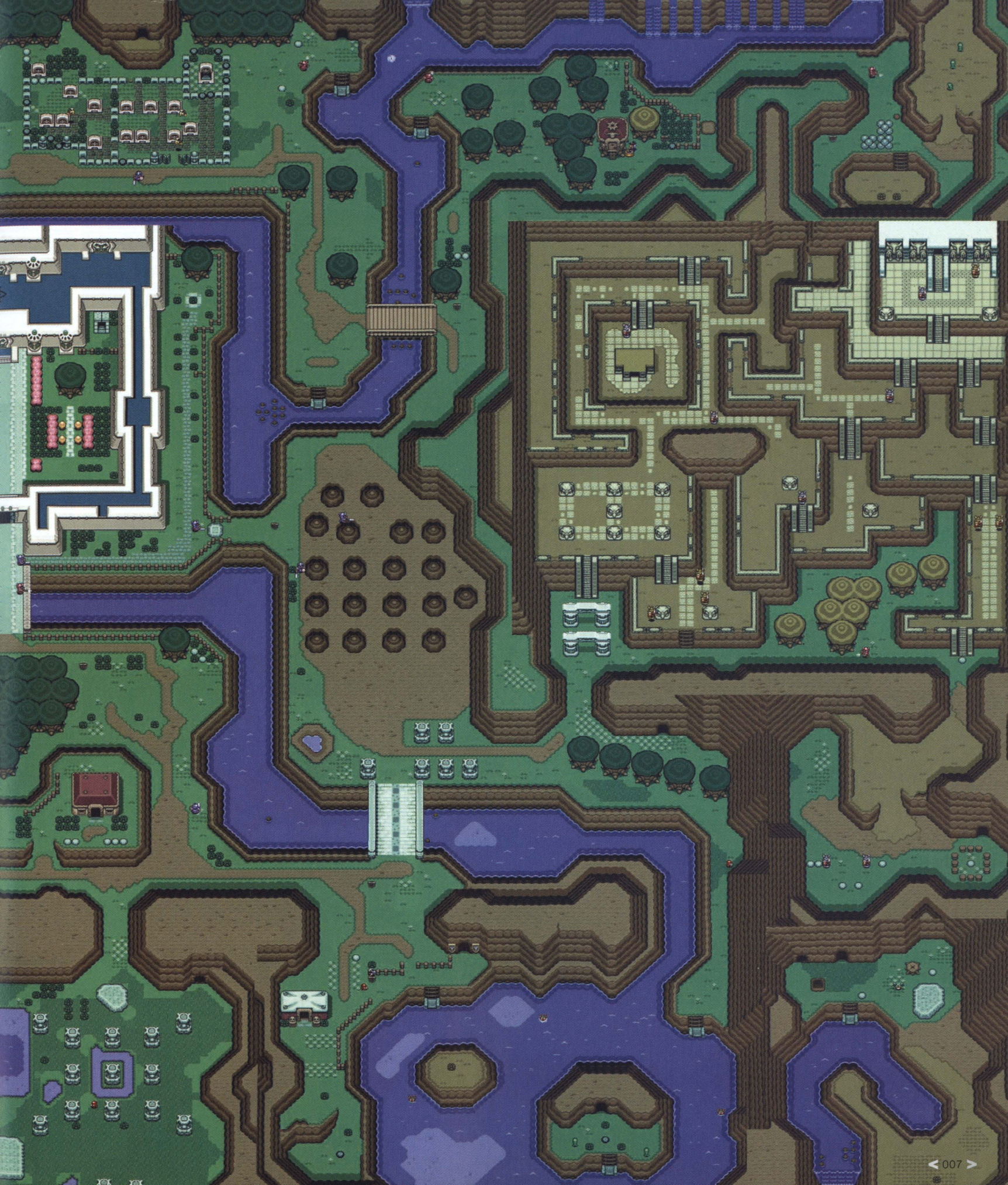
I hate retrogaming. It makes me sick. And it's not because I'm some sniffy youth whose first gaming experience was *Tekken Tag* on PS2 and who sneers that old games have rubbish graphics. The first videogame I ever played was a tabletop *Space Invaders* in a cafe at some point in the late 1970s. So what's my problem?

It's several problems, actually. First, the actual word 'retrogaming'. What's that about? I can read a novel by Joseph Conrad published 100 years ago, or a Len Deighton thriller from the 1980s, and I won't be accused of 'retroreading'. I'm not 'retrolistening' if I stick on some Bach or Frank Sinatra or Van Halen. Watching classic Cary Grant films from the 1940s, or 'The Seventh Seal', or 'The Empire Strikes Back', is not termed 'retroviewing'.

These media – cinema, literature and music – are acknowledged as artforms with a history, and

course, in the good old days, they didn't have fancy 3D graphics to hide behind – so they really had to engineer fabulous gameplay!" Well, yes, that would have been ideal, but for every *Tempest* or *Super Mario Bros* for which that is true, there are hundreds of lookalike platformers or jerky shooters that are an insult to the memory.

Of course there can be pleasure in revisiting bad old games, but really the game is only acting as a kind of Proustian madeleine – the experience of replaying can bring warm fuzzy memories of childhood and innocent wonder flooding back. Which is nice. But let's not kid ourselves that the game itself was any good. What also seems to be missing the point is how retrogaming culture is very often at base a simply consumerist obsession. So you have a rare Japanese SNES game in a pristine box, huh? If the game sucks, who cares? Only collectors: the kind of people who like hoarding

from the history of the medium. And then we would be free to discard the trash. There's nothing wrong in admitting that 99% of videogames in history have been basically garbage, because it's true of every artform. We remember the classics of 19th-century literature, but we don't remember the far more numerous 'penny dreadfuls' that outsold them by factors of ten or 100 at the time. In any given calendar year, you can count yourself lucky if there appears one piece of music, one film, one book or one videogame that will be regarded fairly unanimously as a classic in even ten years' time.

The Game Boy Advance has been criticised in some quarters for hosting so many updates of 8- and 16bit classics, but that can only be a good thing. If a game from 15 or 20 years ago can stand up to *Advance Wars*, then it truly is a great piece of software, and there's nothing

TRIGGER HAPPY

Steven Poole

Is nostalgia holding back gaming?

there is nothing inherently nostalgic about appreciating art from any time. But using the term retrogaming does imply a kind of nostalgia, in the sense of all those horrible 'I Love Some Arbitrary Date from the Past' television shows. And there is an awful lot of nostalgia in retrogaming. Remove the rose-coloured memory filters and actually play some of the games you remember so fondly and it can come as a rude shock. I shudder to acknowledge that I must have actually spent £5.99 of hard-earned paper-round money on something like *Tapper* for the ZX Spectrum. In terms of value for money, £40 in today's money for *MGS2* or *Halo* seems like a bargain in comparison.

So many products of early videogame history, one rapidly comes to realise, were built around a single, simple play concept that becomes boring in a matter of minutes. People nod sagely and say, "Of

stuff regardless of its inherent value.

And in social terms, the tragedy of retrogaming having become a 'scene' is that it has attracted the attention of that most annoying of lifeforms, the Shoreditch Twat, the kind of idiotically trendy denizen of the fringes of the City of London who will wear an Atari T-shirt for its 'cool' value but knows nothing

The tragedy of retrogaming having become a 'scene' is that it has attracted that most annoying of lifeforms, the Shoreditch Twat

about gaming beyond *FIFA* and *Lara Croft*.

Most importantly, using the term 'retrogaming' helps to keep the artform firmly in its unrespected, kiddy niche. If videogames were acknowledged as the important cultural form that they are, playing games from the 1980s wouldn't be considered 'retro', it would just be another option available

backward-looking about playing it. That's how it is with the GBA iteration of *Gradius*: it's a superbly balanced and creative shooter, and just a better game than a modern imitation such as *Phalanx*.

If the gods smile on me, I might some day be able to acquire an original *Robotron 2084* arcade cabinet. And when I'm wrenching those twin joysticks around in a frenzy of claustrophobic violence, I won't be retrogaming. I'll just be gaming. And that's how it should be.
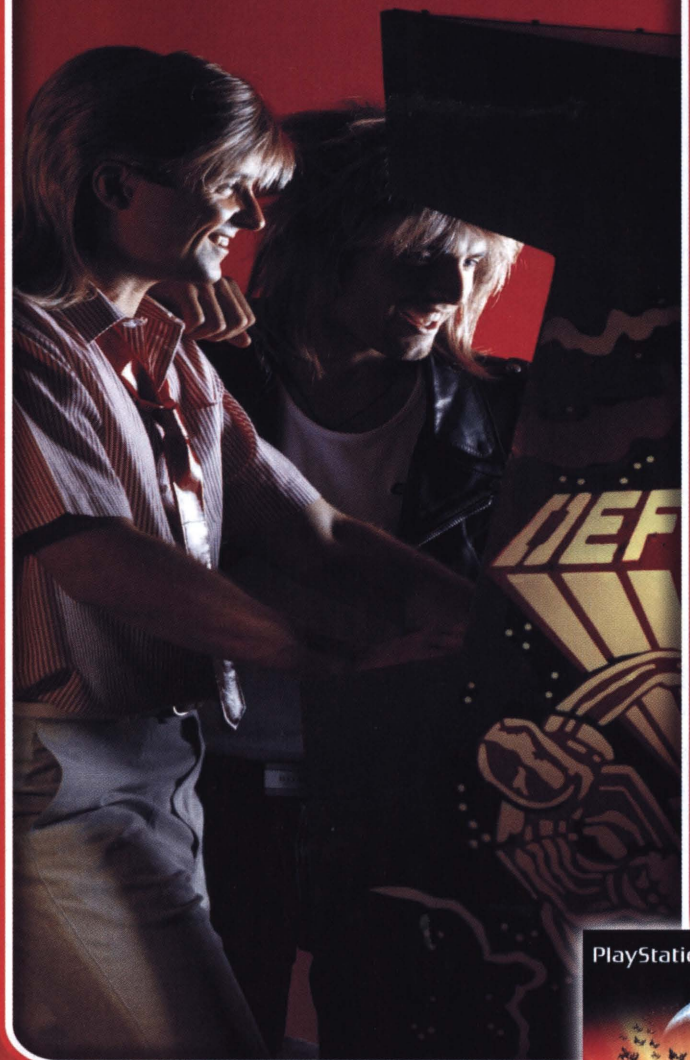
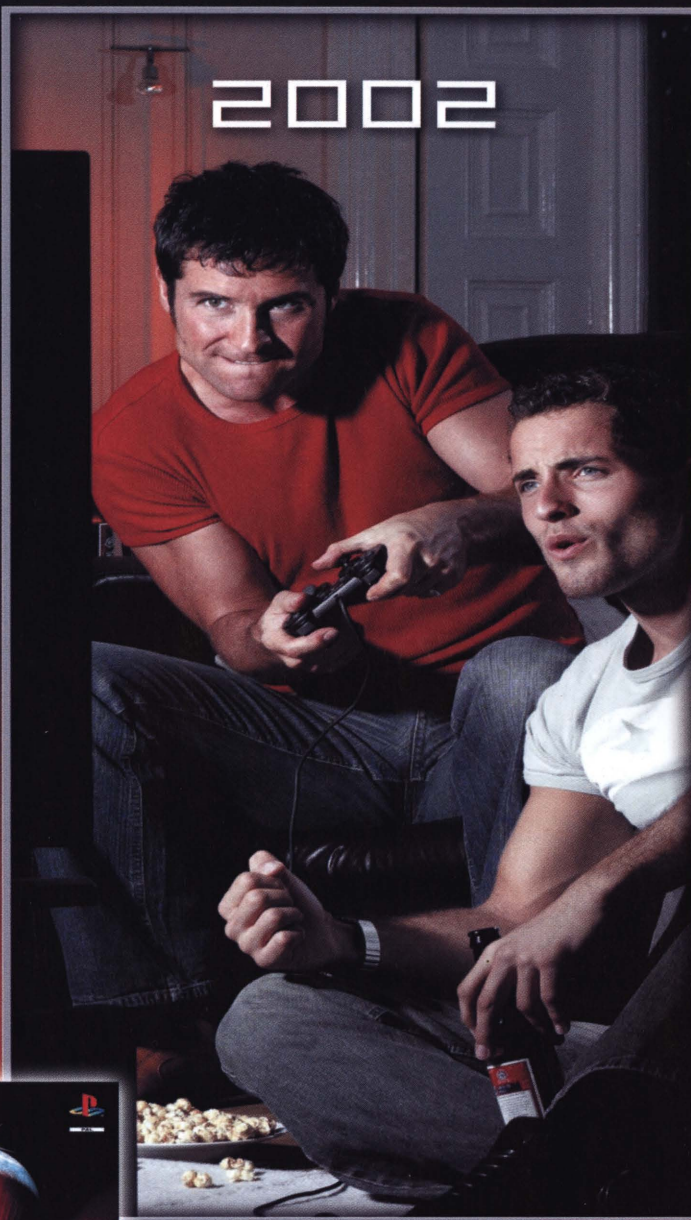*Steven Poole is the author of 'Trigger Happy: The Inner Life of Videogames' (Fourth Estate).*
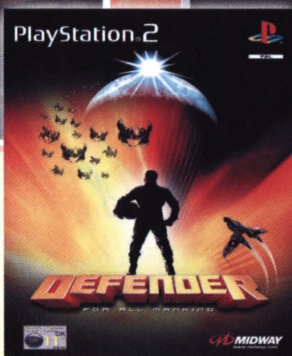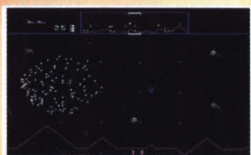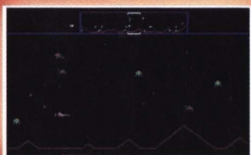
< 008 > The Magnavox Odyssey was rereleased by Philips in 1978 as Odyssey_. Graphically inferior to its competitors at the time, in an odd twist the machine's joysticks were fixed to the base unit

It is December 24, 1991, the night before Christmas, and all through RedEye's house, not a creature is stirring, not even a mouse – a surprise given the rodent infestation that comes as standard with London's cheaper properties. Besides, it's not a house, it's a flat above a grocer's store – presumably where the mice *really* are – on a busy high street. RedEye, hand on chin, head out of window, gazes at the street below with one part loathing, one part whisky, one part disgust. Some silent night, some holy night; it fizzes with neon, headlight traces which turn snow to slush, horns and shouting and panpiped carols. Shoppers stumble through the icy wind, bleeding and freezing for capitalism, clutching bursting carrier bags. Bah, humbug.

"Evenin', Mr RedEye!" shouts a voice from below, waking RedEye from his absent-minded seasonal loathing. "'Appy 'olidays!" It's Tiny Jim, a nerdish urchin who works in the grocer's downstairs, and whose lust for yesterday irritates 24/7. RedEye

several minutes. But it gets louder, nags, and eventually it stirs RedEye enough to motivate an investigation. He shuffles off into the gloom, around the corner, where he finds three hooded spectres sat cross-legged on the floor. They are staring at a TV that, depending on how you tilt your head, is simultaneously displaying *Pong*, *Super Tennis*, and some 3D tennis game that is unpalatably futuristic. Each stares at the court, rapt, clutching a gamepad between bony translucent figures.

"BEEP!" goes the television speaker as a bat makes contact with a ball.

"*Aaargh!*" screams RedEye, as his fragile heart skips a beat.

"*Aaargh!*" scream the ghosts, spinning around in unison.

"*Aaargh!*" screams RedEye again, as their black-hole eyes meet his.

There is a pause, a stand off, and one of

"Okay! So let's do this." The other two ghosts nod. Past puts a tape recorder down on the table, presses play. "*I think we're alone now,*" sings the tape. "*There doesn't seem to be anyone around.*" The ghost, a pink glow warming his hood, fumbles, hits stop, eject, flips the tape over, and presses play again. The other side contains digital noise, the sound of machines dying and dead and yet-to-be stillborn. Or it's just a data cassette. As the binary screeching continues, he shuffles the photos into some semblance of order.

"Hear that? That's the sound of tomorrow. See these?" He slaps a few of the photos down on the glass coffee table. "These are photos of dead machines." RedEye recognises a few – a VCS, a Vectrex, an Electron, Dragon, BBC Micro, Spectrum, C64, winners next to losers – but then comes a clutch of modern consoles, and more; about 20 sleek, angular slabs that RedEye takes to be the future.

"They're not dead."

REDEYE

A sideways look at the videogame industry

Christmas time, mistletoe and whine

nods towards the youngster, who beams back, all innocence and halos. "Mr RedEye, sir, I was just wonderin', it bein' Christmas an' all, if you could return my C64? Only the 'ole family fancy a bit of a sing-song, see, and I thought that a little tinkle on the old SID chip might be in order!"

RedEye absent-mindedly glances back towards his games ghetto. Can't see it. Hmm. Then he recalls, and wanders away from the window and through to the kitchen. There it is: the draining board. Not on it; it *is* it – you wouldn't believe how good that keyboard is for wedging cutlery upright, and if RedEye returns it he'll be eating his turkey with a streaky fork. Anyway, there's common decency to consider. Playing with dead hardware on Christmas Day amounts to fetishising the history of losers. Gaming is about winners, the future, progression. He returns to the window, slams it shut, winks at the tearful youngster shivering in the slush below, and goes to bed. Bloody deviants.

Lulled by the whisky, sleep comes easily. So quickly, in fact, that the digital cacophony that is growing in the front room does not wake him for

them coughs nervously.

"Greetings, mortal," it intones with too much sincerity. "We are the ghosts of Christmas Past, Present, and Future, and we are here to show you what has, is, and *will be.*" As it echoes the end of the sentence, it gestures over-dramatically with its arms and RedEye expects his world to segue to a vision.

There's common decency to consider. Playing with dead hardware on Christmas Day amounts to fetishising the history of losers

It never does. The ghost smiles apologetically, and reaches beneath its cloak.

"Budget cuts. Sorry," it says, and pulls out a clutch of photos, guiding RedEye to the couch and sitting down next to him. The other two follow. A dazed Redeye notices that something – well, a few things, but one thing in particular – isn't quite right here: "I thought you were meant to arrive in sequence?" The ghost glares from infinity. "Like I said, budget cuts," he sighs. "We've got to get the same taxi home," adds another, sheepishly. There is an awkward silence.

"They're *all* dead, RedEye. As soon as they exist, they're dead. Even the winners."

"Winners don't do drugs. Stay in school," adds Present, cryptically.

"But I'm not at sch –"

"Look, it really doesn't matter," says Future irritably, glancing at the living-room clock. "Being prissy about time is a waste of it. It's as pointless to fetishise the future as it is to dismiss the past. Where I'm from, everything's retro… retro… retro…"

With that the spirits disappear and, in an uncertain blink, RedEye is back in bed asleep. When he wakes a few hours later, it is Christmas Day. He gently sponges the suds from the inside of the C64, and loads the cassette the ghosts have left behind. It is *Wizball*, and his world starts to fill with colour.

RedEye is a veteran videogame journalist. His views do not necessarily coincide with **Retro**'s

< 010 > Atari's handheld Lynx console was originally developed by Epyx, a software company renowned for the likes of *World Games*, under the working title 'Handy Game'

OBSESSIVE

OBSESSIVE

From specialist shops to Tokyo-based importers and hardened coin-op collectors, classic videogames are a big noise right now. **Retro** meets the industry's most dedicated enthusiasts

Rare books, coins, stamps, records. These are just some of the sub-industries that variously attract salivation or scorn from those who are respectively in or out of 'the know'. The auction-house half-truth cliché that an item is worth what someone is willing to pay is beginning to ring true for the videogame sector. Week by week the market watchers see collectable games further edge their way into the spending stratosphere. But it's no real surprise. There is a universal truth that the industry would rather pretend doesn't exist: great gameplay is timeless. Just as Hollywood would have us believe its latest spawn improve indescribably on their forefathers, so the gaming billboards of the world declare, 'new games are better'. Well, yes and no. Evolution is a good thing but basic primal fun never really changes – just the places we find it. Each generation of gamers has seen more and more videogames so it's getting harder to pull the wool over their globally aware eyes. For every *Gungrave* there's a *Gunstar Heroes*. While *Gungrave* will net tens of thousands of dollars, fill as many second-hand bargain bins and produce even more dissatisfied customers, *Gunstar Heroes* will make 40p for the local Oxfam and someone very happy. Great gameplay is timeless.

But this isn't the closing speech at the trial of retrogames. This article looks at the collector's market – a peculiar yet immensely powerful offshoot of retrogaming. For what collectors want to buy influences what retrogamers want to play. But before we dive in attempting to understand the collector, we must appreciate that gameplay endures. And that's why players want to bottle it. And bottles have always been important.

Indeed, it's a very different type of gamer who boots up MAME to get their *Defender* fix than the collector who hunts down the original cab and begins a restoration. Almost all collectors are retrogamers, but not all retrogamers are collectors. It's an important distinction that's scarcely mentioned. The collectors view emulator propagators as the Capulets view the Montagues. They are different breeds, fiercely distinct but tied to each other by virtue of their passion. Romeos are frowned upon. For the collector subspecies, the thrill is in the hunt for the mint boxed cartridge that just might be at the next boot sale or on ebay this week. The completist gamers value their packaging more than their graphical frippery. It's much harder to empathise and enthuse with the past when you have no bottle, just a PC file marked 'Romz'.

To be a competent collector you need to be feverishly enthusiastic, comprehensively knowledgeable and perhaps a little worryingly obsessive. However, the money hungry toy collector in 'Toy Story' is (in most cases) unfair when applied to the game collector. All collectors are, or were, fundamentally gamers, not moneymakers. Over the next 18 pages **Retro** looks at a number of gamers who are helping to forge a new industry with an age-old phenomenon by using their retroactive spending.

"Almost all collectors are retrogamers, but not all retrogamers are collectors. It's an important distinction that's scarcely mentioned"

Jon Cronin, CEX marketeer and self-confessed videogame collector

Computer Exchange has ruled the roost of secondhand gaming trade shops for a decade now. The concept of buying a game, playing it to death and then trading it back again against a newer title has been around for some time but it was CEX that turned the practice into a high-street chain in 1992. **Retro** spoke to **Jon Cronin**, marketing manager of the CEX group and self-confessed collector, to find out how a chain of stores based on the principle of trading old games for new came to open a store for people wanting to trade new games for old.

"Although CEX has always tried to carry interesting and collectable games, consoles and accessories," he begins, "we became aware that there were sections of the gaming community, our staff included, who were always on the lookout for certain rare titles for their home collections. As a lot of these titles fell into the retro category, in 1998 we opened a dedicated retro shop in central London to cater for this small but growing and vociferous demographic. The system works well within the CEX body. We generally move systems into the retro department when they are no longer widely commercially available. Then, when the prices we offer on the rare pieces are increased, we see a healthy influx and outflow of desirable titles. The beauty of the system is that we can have the strange scenario of someone trading in their newest *FIFA* soccer title for a Neo-Geo home cart."

Sweet irony. The CEX Retro store holds impressive stock, the premier examples of which shift very quickly. The store gains unique insight into the types of people who purchase collectable gaming items. "There

Retro chic has become so popular that gamers are trading in recently released titles for antique consoles

CEX therapy

For ten years now, CEX has been at the centre of retrogaming. **Retro** scans its shelves for bargains

Three types of collectors visit the CEX Retro shop; lost-childhood seekers, hardcore gamers and interior designers

seem to be three main types of London buyers," Cronin explains. "Gamers who want to access a part of their childhood lost will often buy the more reasonably priced items like Vectrex and NES. For these buyers issues such as condition and box aren't as important as the purpose of the purchase, which is to revisit gaming places left but not forgotten. The hardcore collector looking to hunt down the earlier pieces to a well-loved series will be the Neo-Geo buyer or the PC Engine evangelist. For these consumers price is not so much an issue as condition. Finally, and this is probably unique to London, you have the vogue furniture hunter; those who buy to give geek charm to the front room. We have even had buyers for music video

shoots. Suffice to say this third profile is a very different breed of collector."

CEX Retro is perfectly placed to view the transient collecting trends in an infant industry: "In 1998 we saw a massive surge of RPG collectors specialising in SquareSoft and Enix. There were cases where word would spread that a rare US SquareSoft title, such as *Chrono Trigger*, was coming in from a seller. It would then be sold to someone already waiting at the counter. The RPG

market has levelled off and now the Neo-Geo AES system is by far the most collectable format for us. One seller made the mistake of informing his wife how much his Neo-Geo cart collection was worth and was promptly marched down to the shop. He sold his system and games for £7,000-8,000 and walked straight out of here to buy a new car."

Cronin is reluctant and/or prohibited from talking profits but the fact that CEX is still a blossoming outlet after four years gives some

"One seller made the mistake of informing his wife how much his Neo-Geo cart collection was worth and was promptly marched to the shop"

The original version of Sega's Master System contained a hidden game. To access it, you had to simultaneously press up and buttons 1 and 2 after powering up. Voila – your very own snail-wandering-around-a-maze game

RETRO GAMES

RETRO GAMES @ CeX

PC Engines turn up in varying states, as do Saturn titles

Fancy a Robotic Operating Buddy for your NES?

The TurboGrafx commands a loyal following among collectors, so an extremely busy trader's market exists, both at retail and on the Internet

You'll have to look hard to find an Atari VCS in really decent shape (unlike this one)

Pong isn't as rare as you might think, but it still commands a respectable price tag. Whether you play on it or put it on the mantelpiece is up to you

indication of its success: "We have buyers from all over the country. The benefit over Internet purchasing is that the buyer can check the all-important condition of the item first." But despite the relative success story that CEX Retro represents Cronin is pessimistic about the chance of dedicated collector and retro shops springing up over the nation in the near future: "The industry simply isn't big enough in this country. We are many years behind the Japanese collectors' scene. Shops such as Retro X and Retrogames have been and gone because it's very hard to break even solely with retro games. That is why we have the main store upstairs in Rathbone Place. It allows mainstream gamers to come into the shop, pick up their *Tomb Raider* game and then come downstairs to explore a whole new gaming continent."

Breath of Fire (SNES) featured a cameo from *Street Fighter II*'s Chun Li: talk to a boy magician in the town of Bleak to catch a glimpse of her practicing her lightning kick.

UK Neo-Geo titles came in a hard-shell casing, a feature that has driven up their worth to collectors

Neo-Geo Pocket collector Graham Honey now considers turning to the Dreamcast

SNK projects always seem to end up a gamer's dream and a financier's nightmare. Its decision to enter the handheld market with a system many times more powerful than the Game Boy caused worldwide ripples of excitement amongst cognoscenti. The Neo-Geo Pocket Color was a worldwide-released colour format which stole the hearts of gamers with its gameplay-packed miniaturised versions of SNK's most prestigious franchises. Although it all ended in tears only in late 2000 the Neo Pocket surely holds the record for the most rapidly collectable format ever. **Graham Honey**, owner of one of the most conclusive Pocket collections in the world, talks **Retro** through some of the theory: "I began the

A copy of *Pocket Reversi* would have been worth just £20 a couple of years ago, and yet one recently sold via the Internet for £132

The boy who never grew up

Production of the Neo-Geo Pocket Color stopped in 2000, and yet it's already eminently collectable

collection unwittingly with just a few choice UK titles about two years ago. I decided to see if I could own every title released in England. When I achieved that, I investigated the Japanese market and tried to get every title that was never released in the west". With all 39 UK titles, 40-odd Japanese only titles and all the box-set systems ever released, Honey is missing just one obscure Japanese title. His testimony is typical of the gamer-made-collector: a title innocently bought from a high street retailer leads to interest in the system; this, in turn, can lead to his commissioning friends to trawl through Akihabara in search of the last few elusive titles to complete the set. It's easy to dismiss Honey as fanatical but with the Pocket-

collecting community growing in size and determination it's indicative of a phenomenon rather than an individual's eccentricity.

Anyone who has owned a recent Neo-Geo AES release will know how satisfying the clam lock cases are. This theme was inexplicably miniaturised solely for the UK market. The US and, in the main, Japanese territories had to settle with flimsy cardboard cases similar to the ones to which Game Boy owners are accustomed. "For the first time

ever the UK market had something everyone else wanted. The hard-shell casing has definitely driven the prices of the UK games right up", explains Honey. "They are many times more durable than the cardboard casings traditionally used for handheld games. Even the AES collectors want the hard-cased pocket versions to put next to their 'grown-up' boxes. This, coupled with the fact that many of the final games were released in the UK but didn't make the US

"With no one to monitor or dictate prices other than the buyer we need dedicated publications otherwise it's left to people's whims week by week"

The word 'Tetris' comes from the ancient Greek word 'tetra', which means four (there are four small blocks in each falling piece)

Graham Honey's Neo-Geo Pocket Color line-up is as vast as it is attractive. Seeing a spread such as this is surely enough to convince the cynic of the attraction associated with collecting

"It is good to know that should anything go really wrong for me I have something to sell which is really worth something"

Holding on to every last piece of packaging and documentation is all part of a collector's life

translation, has made the US collector focus his attention on our market. The theory goes that many of the last titles, like *Faselei*, *Evolution*, *Pocket Reversi* and *Gals Fighter*, were due to be returned to Japan at the withdrawal of the Pocket, to be either crushed or recycled for Japanese use. Some retailers accidentally put these titles on their shelves – so some escaped onto the market. If ever there was a recipe for a collectable format, this was it. "I have only ever seen two copies of *Pocket Reversi* for sale, both on ebay," says Honey. "One is my copy, the other sold last summer for £132." This is an outrageous price for a game that would have cost £20 24 months ago, but it clearly demonstrates two key principles of collecting: first, the retro label is an indefinable classification. Second, one must never underestimate the completist.

Retro wonders how much of a gamer Honey is. "Well, I haven't even attempted completion *Faselei* or *Evolution*," he says. "To be honest, I prefer the quick-fix games that I can put down after 20 minutes. There is the issue of keeping the carts in good condition, too. You have to protect your investment." He remains adamant that he won't be selling his collection. "It's listed under my insurance. I don't think prices will shoot up that much in the short term now. They seem to have levelled off and the titles everyone wants are clear. It is good to know that should anything go really wrong for me I have something to sell which is really worth something, but at the moment prices are so volatile it's not even worth entertaining the thought. Some games go for £50 one week and £20 the next. I think this is indicative of an industry finding its feet. With no one to monitor or dictate prices other than the buyer we need dedicated publications covering the material otherwise its left to people's whims week by week."

Honey is now thinking turning his attention to the Japanese Dreamcast sector: "Some of the eastern titles are sure to go the way of the collectable Saturn shooters." The chase is on, then.

The first electronic game was arguably *Tennis for Two*. Devised in 1958, the game was a simple side-on view of a tennis court, displayed on an oscillator screen, powered by military computers normally used for calculating missile trajectories

017 >

Videogame importing is no longer the realm of the backstreet mail-order company charging prices as far fetched as the games they sell. The rise and rise of ebay has both allowed the gamer hungry for a retro taste of Nipponese creation to take matters into his blistered hands and has created a slew of new job descriptions. A new breed of bargain hunters have literally gone the extra mile and become suppliers themselves. **Retro** spoke to **Steve Bailey**, a British citizen who married a Japanese girl and made his hobby his business.

"I was originally a Sega fanatic when I met my wife in England," he explains. "We were married and situations arose whereby I had to sell my collection. Then a family tragedy resulted in us temporarily moving back to my wife's homeland. I needed work to keep us afloat while we were there. Worthwhile jobs are hard to find for gaijin so I decided to make use of my knowledge and buy gaming collectables in Osaka for export back to the west." This is not an isolated case. Check ebay and you'll find many westerners now living in Japan and using the Internet to sell the spoils of their treasure hunting.

"I have contacts in the UK who alert me to what titles are selling well back home and in America," says Bailey. "I can then go rummaging through the appropriate sections of the obscure shops to find the titles in demand. There's often a crossover in that certain titles that are very collectable to the westerner are also desirable in Japan. Ebay darlings *Radiant Silvergun* and *Sengoku Blade* can cost up to £100 here in their native territory. Retrogaming and collecting is a far more evolved industry here in Japan. Neo-

Until Japanese gamers can learn to trust the west, he says, Steve Bailey is still in a job

Radiant Silvergun is a title just as sought after in its homeland as over here. But buyers placing large orders for *Ikaruga* in the hope of making a quick buck may be disappointed

Games with art by leading Japanese artists can attract buyers from the world over. *Front Mission*'s Yoshitaka Amano and *Tom Sawyer*'s Katsutoshi Fujioka are two leading lights

Our man in 'Habara

Steve Bailey works three days a week and earns up to £800. **Retro** headed east to find out how

Japanese shooters such as *Battle Garrega* net Bailey consistent profits

"Currently I can make anywhere between £400-£800 a week. If someone was truly dedicated they could easily net £60K a year"

Geo carts go for almost as much here as elsewhere. Ironically, if you can find them at an import store you can buy items like the *Sakura Wars* boxset or *Super Street Fighter II X* for a similar price in England as in Japan. But just as there are titles collectable to westerners that disinterest the Japanese so there are extremely collectable games in Japan that the west ignores. The Saturn shooter *Stella Assault* and the Mega Drive's *Comix Zone* command very high prices here

but there is very little demand in the west simply because people don't really know about them."

Indeed, the collectors' market is so evolved in Japan that often Bailey finds shop owners holding back stock until its value rises: "I found one shop with some rare special-edition Dreamcasts and a load of *Space Channel 5* boxsets complete with headphones. The titles had a big sign declaring 'Not yet for sale'."

With so many westerners trying their hand at this game it's tempting to wonder how things fare financially. Bailey is surprisingly forthcoming: "I work only three to four days a week. My wife does a lot of the packaging for me, which frees me to go buying. Currently I can make anywhere between £400-£800 a week. If someone was truly dedicated and spent a working week doing this they could easily net £60,000 a year. The demand is there. I seem to be making the most money off the Saturn shooters at the moment. I have sold a copy of *Soukygurentai* every week for the last six months at £50 a shot. Dreamcast is set to be the next vogue trend. I can buy a copy of *Samba De Amigo Ver. 2000* for £6 in Osaka and sell it to London for ten times that much in the evening."

With such tidy profits, why do Japanese gamers not play the system? "The Japanese remain resolutely introverted in their regard of foreigners. In their eyes we are not to be trusted and the faceless trading of the Internet age goes against traditional Japanese business practice when dealing with westerners. Until there is a cultural shift in this respect I am still in a job."
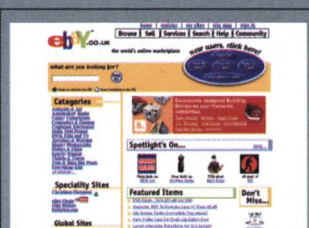
Ebay sniping

The fact that many of the very desirable games are driven up in price by competing bidders has resulted in a sub-ebay industry-auction sniping. The basic premise is that you use a thirdparty Web site to place a high bid on a particular item. The sniping server then retains your bid, placing it within the final few seconds of the auction. This practice can be highly annoying if you have patiently bid on an item only to be seemingly pitted at the post by an unknown bidder. The only way around this – short of joining a sniping service yourself – is to place a high proxy bid that the sniper won't have anticipated. Be warned.
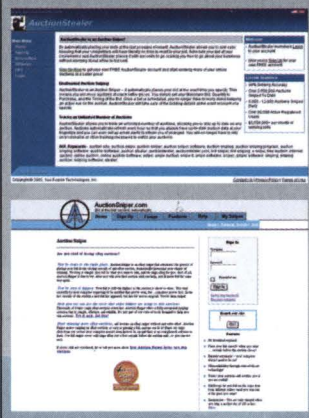
S o, where to start? Well, as with all ventures you must first have a focus. Although most collectors are constantly on the look out for certain titles, the time, expertise and effort required to hunt down a complete series means focus is important. Choose a game series from *Mario* to *Metal Gear* or a developer from Rare to Square. Whatever you choose, make sure you really enjoy the games. This is of prime importance because if you are to have the dedication to hunt down rare items, you'll need to draw on a passion for what you are collecting.

Next, research. Take it for granted that there is always someone out there who knows and collects more than you do. The chances are there will be at least one fan site for your chosen target. If you're collecting a well-loved series or system then there will be many sites dedicated to the games and developers you're interested in. Say, for example, you want to collect *Metal Gear* games. You'll be faced with a mass of information and links to various avenues of Kojima-san's universe. Read up and try to find approximate price guides so that you're equipped to recognise a fair or foul deal. Don't be afraid to ask around. Admitting you're a novice will often get you a far better response than acting like a know-it-all.

There are many places to look when you embark upon the search in earnest. The obvious place is ebay where the propensity to pay over the odds is counterbalanced by the fact that you're drawing upon a worldwide marketplace. Although it can seem daunting at first, its simple interface and easy access have made it the biggest Website in the world. When you run a search,

When collecting Japanese disc-based games, inserts and spine cards are all important. If you need convincing, just consider that a *Radiant Silvergun* spine card alone recently sold for £20 on ebay

Bargain hunt

Retro's beginner's guide to finding collectable games as cheap as chips

make sure you set it to include all territories outside of the UK. Rip-off Britain is a phenomenon that has tarnished even ebay, and despite extra shipping costs you're much more likely to find a bargain in the US or Japan than in the UK. A useful tip is to run a more detailed search on completed items. This will allow you to see the current selling prices for items you're looking for. Pay much more than the completed auctions here and you'll probably be paying too much.

A secondary point of call would be the main collectable games shops. The majority of retailers now have at least a small retro section. Obviously the chances of finding the more elusive import titles are higher if you go to dedicated stores like CEX Retro or Raven Games. However, there is the chance that you'll find a US *Chrono Trigger* at your local independent, if not a *Metal Slug 1*.

The car boot sale is a wonderful place to find old hardware. Bear in mind, though, that your find will probably be of western origin rather than Japanese, and that the condition may not be that great. Although items in poor condition and slimmer chances of finding really good items are risks you will run, the opportunities of true bargains (and the tales that surround them) keep many collectors coming back.

Although you must be cautious, many fan sites contain their own trading areas. Even **Edge**'s forums (forum.edge-online.com) play host to a trading post. If you trust the people in the community, this can be a great place to start – but make sure you always get a recommendation from other members or that you see the seller's ebay profile (in a worst-case scenario at least get hold of the seller's contact number and home address). If it is your first time dealing with a seller be sure to start with an item of modest value unless you are certain they are trustworthy.

Of course, a trip to Akihabara, the proverbial gamer's promised land, will be the most desirable option – but until then there are those who will supply if the demand is there.

"Rip-off Britain is a phenomenon that has tarnished even ebay. You're much more likely to find a bargain in the US or Japan"

The wish list

Rich pickings for the collector looking for that special little something

Here **Retro** features a non-definitive list of the most collectable games in the world at the moment. The price guide is an indication from a UK collector's market perspective. Pay less than the suggested price and it will be a good deal but pay more and you may well be losing out. Price will vary depending on condition of the box, instructions, whether the item is sealed, how many inserts are retained. and whether that all-important spine card is still present. Remember, the prices here are for indication only – nothing is gospel.

Final Fantasy

Value: £50–100
Platform: Nintendo Famicom
Version: Japanese
Original release: 18/12/1987
Developer/publisher: SquareSoft

The value of the Japanese-originated *Final Fantasy* series carts has plummeted in the last two years. Despite the fact that the original Japanese *Final Fantasy* game only sold around 12,000 copies, a mint boxed game can go for well under £50 in some US auctions. If ever there was a time to buy a cheap and great potentially valuable game series then this is it.

Metal Gear 2: Solid Snake

Value: £100+
Platform: MSX-2
Version: Japanese
Original release: 1990
Developer/publisher: Konami

After the success of the first *Metal Gear* for MSX, Konami released an appalling game, *Snake's Revenge*, on the NES, linked to the series in name only. Kojima-san put things right with this MSX-2 update in 1990 introducing the hallmarks of the series: crawling, radar and codec. This title is so rare that it has never been seen on ebay (or so it's claimed).

Super Mario Bros (YM-901S)

Value: £1,500–2,000
Platform: Nintendo Game & Watch
Version: Japanese
Original release: 19/08/1987
Developer/publisher: Nintendo

Nintendo Game & Watch is an avenue of the collecting scene that attracts more than its fair share of takers. Although it is debatable as to whether this, the 58th Game & Watch, is the most rare, seeing as there were only 10,000 or so manufactured, it is certainly the most valuable if found in boxed condition with all its documentation. In 1987 Nintendo held a competition with four events concerned mastery of pixel golf courses, the winners of which received a special release gold Famicom disk. For the *3D Hot Rally* tournament the winners won a stationery kit in presentation box. However, the top prize was reserved for participants who ranked very high in the Famicom *F1 Grand Prix* race game. Although the game can be picked up loose fairly easily in Japan the real Holy Grail is to find the item in its presentation box with certificates, licence and paperwork.

The all-important presentation box will add up to £500 onto the asking price.

Chrono Trigger

Value: £70–100
Platform: Super Nintendo
Version: US
Original release: 03/11/1995
Developer/publisher: SquareSoft

Square's clever time travel-themed action RPG was exceedingly well thought out and is highly respected within the development community. Legend has it that Ion Storm required all staff to complete the game before they could join the company. The game easily holds a candle to the early *Final Fantasy* games and is better scripted than just about every recent RPG offering.

Exed Exes

Value: £100
Platform: Nintendo Famicom
Version: Japanese
Original release: 12/21/1985
Developer/publisher: Tokuma Shoten

Based on an arcade game by Capcom and licensed by Memetron (released in the US as *Savage Bees*) this cart fetches very high prices in Japan if found with its Silver Members sticker. If you attained a high score of over 1m points in the game you were awarded with a special password. Gamers had to photograph their high score on the screen, send it in to Tokuma and were rewarded with the sticker. Shortages meant that not all gamers received their stickers, hence the collectability. Just like *MGS2*, then…

During its first ten years of home videogame production, Nintendo claimed to be selling three games a second
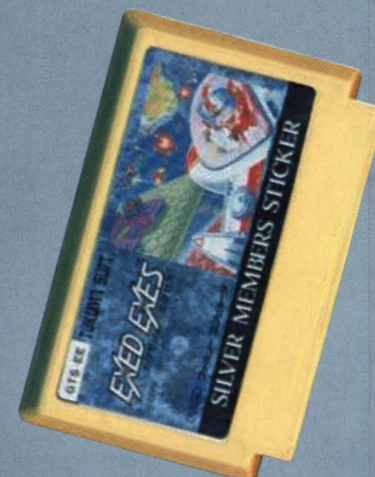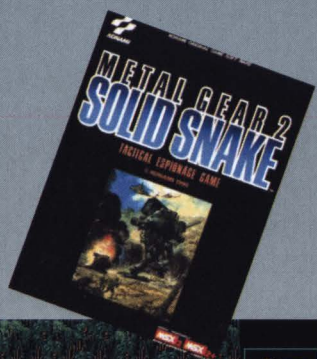
Comix Zone

Value: £200
Platform: Mega Drive
Version: Japanese
Original release: 01/09/1995
Developer/publisher: Sega

Perhaps the only situation ever where the Japanese version of a game will cost a hundred times that of the UK release. *Comix Zone* is a scrolling platform/ beat 'em up hybrid. Seeing as it is possible to buy the UK version for less than a fiver, this iteration is strictly for the hardcore collector.

Hyper Duel

Value: £70–200
Platform: Sega Saturn
Version: Japanese
Original release: 22/11/1996
Developer/publisher: Technosoft

A horizontal scrolling shooter from the makers of the *Thunderforce* series, this game has been seen to dwarf *Radiant Silvergun* in terms of prices it can command. The asking has varied a lot recently which explains the vague guideline but it is undeniably in demand due to the in-vogue nature of the genre and system right now.

Bakuretsu Muteki Bangaioh

Value: £70–100
Platform: Nintendo 64
Version: Japanese
Original release: 03/09/1999
Developer/publisher: Treasure/ESP

A game familiar to **Edge** readers, it even secured a respectable review back in **E**79. Many will have played the Dreamcast iteration, but the superior controls and fairer gameplay make this the definitive version. That is, if you can find one of the 10,000 pieces in existence.

Gunstar Heroes

Value: £100
Platform: Sega Master System/Game Gear
Version: US/Japanese
Original release: 24/03/1995
Developer/publisher: Treasure/Tectoy/Sega

The little-known Game Gear handheld version of *Gunstar Heroes* was released nearly two years after the original hit the Mega Drive. Tectoy, a subsidiary of Sega based in Brazil, then released a conversion of the Game Gear version for the SMS exclusively for that territory. It's a rarity given that few fans even know of the Game Gear iteration's existence, let alone this second curio. There has only been one copy ever on ebay and it was retracted due to the amount of emails the seller was sent either requesting he sell outside of the auction for an undisclosed amount or accusing him of selling a bootleg.
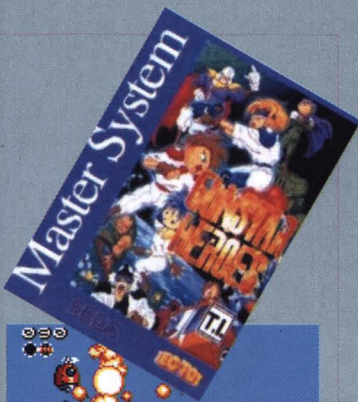
Tengen Tetris

Value: £200–350
Platform: Nintendo Entertainment System
Version: US
Original release: 17/05/89
Developer/publisher: Tengen

Tengen *Tetris* on the Famicom is collectable for more than one reason. Its existence, formed in the midst of a worldwide scandal, is well documented in the history books of our industry. Tengen, a subsidiary of Atari, was refused copyright for its Famicom version of *Tetris* but proceeded to market and distributed it anyway, disrespecting both Nintendo's and ELORG's rights to the name. It was put on the shelves on May 17, 1989 and taken off by way of court injunction on June 21 of the same year. It is unknown how many titles were sold to the public in this four-week period.

Despite the relative failure of its Mega CD, Sega pressed ahead and released the Mega-CD karaoke unit (complete with Sega microphone) in 1992

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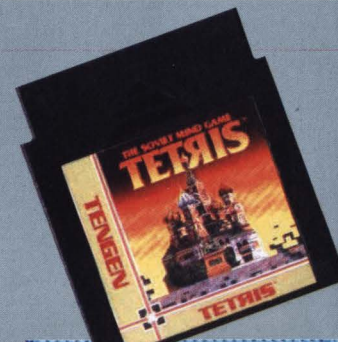
Ginga Fukei Densetsu: Sapphire

Value: £350–450
Platform: NEC PC Engine Super CD-ROM
Version: Japanese
Original release: 24/11/1995
Developer/publisher: Hudson

This vertical shoot 'em, along with titles such as *Darius Alpha*, is one of the system's crown jewels. Released in extremely small quantities, it's one of the hardest games to come by. Requiring the last PC Engine memory upgrade (the Arcade Card), the game features a gorgeous CD soundtrack, beautiful anime cut-scenes and probably the best graphics you can ever experience on a PC Engine or Turbo Duo.

Rakugaki Showtime

Value: £100+
Platform: PlayStation
Version: Japanese
Original release: 29/07/1999
Developer/publisher: Treasure/Enix

No surprise to find another Treasure title in the mix. The only PSone Treasure game to get an exclusive PlayStation release, this graffiti-themed game was allegedly removed from shelves due to a related lawsuit. Perhaps one of the most variously priced games ever, it has been sold online for anything between £60 up to £300 in the last two years. The fact that Enix was the publisher only adds to the game's worth.

Battlesphere

Value: £130–200 and rising
Platform: Atari Jaguar
Version: US
Original Release: 29/02/2000
Developer/Publisher: n/a

A true example of the bedroom coding ethic in a multinational world, *Battlesphere* was created by a team of three working in their spare time throughout the Jaguar's life and beyond. Everything about the game smacks of the maverick from the complete lack of Atari technical support to the fact that profits were ploughed back into diabetes research. The production of the software was in such small quantities that it has become one of the most desirable games of all time.

Metal Slug

Value: £1,200–2,000+
Platform: Neo-Geo AES
Version: US/Japanese
Original release: 24/05/1996
Developer/publisher: Nasca/SNK

By 1996 3D was taking firm root in the arcades and videogaming homes of the world. For SNK to maintain arcade operator interest it desperately needed a new hit that could compete in gameplay stakes with Sega's newest. In 1996 a diminutive developer for the Neo-Geo released two stunning games on the format: *Metal Slug* and *Neo Turf Masters*. Little did SNK know that *Metal Slug* would go on to be the most successful 2D action game arcade operators would see since coin-op gaming's heyday. Nasca was relatively unknown at the time and this, coupled with the fact that SNK had some high-profile titles of its own in 1996, resulted in the Neo-Geo home carts being released in such small quantities. This was especially true for the US market where SNK's foreign office was entering its death throes. As a result both the US *Neo Turf Masters* and *Metal Slug* are two of the most sought-after carts in the world. That *Metal Slug* has gone on to be such a legendary success has ensured that its value has skyrocketed and each time the title comes on to the market new records are broken. Although by no means the hardest to find of the Neo-Geo games this is certainly the title desirable to the most people.

Panzer Dragoon Saga

Value: £80–110
Platform: Sega Saturn
Version: UK
Original release: 29/01/98
Developer/publisher: Team Andromeda/Sega

The collectability of this game has been well documented within **Edge**'s pages. It's a stunning game that has a real aesthetic quality one can appreciate even as *Orta* approaches. The UK version has been listed here, as the DVD-style slip casing that contains the two game boxes allows exceptional extra art to be featured that never appeared in the US version.

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Mail Plane

Value: £2,000
Platform: MB Vectrex
Version: Western
Original Release: n/a 1989
Developer/Publisher: MB

For many years the Vectrex collecting community thought this elusive game, for use with a lightpen peripheral, was lost in development limbo. Nearly a decade after the game was canned for release Jason Moore's esteemed *Retrogames* fanzine (pictured) was presented with evidence that a few carts got out. The lightpen component turns out to be a novelty, as apparently this is fairly simple plane simulator. A version of the game was recently put on ebay for $5,000. Although some Vectrex collectors doubted the authenticity of the product, an FR Wilk, who apparently worked on the game, contacted *Retrogames* and confirmed its existence. A worldwide fanzine exclusive, then.

Virtual Bowling

Value: £600–800
Platform: Nintendo Virtual Boy
Version: Japanese
Original release: 22/12/1995
Developer/publisher: Athena/Nintendo

Athena's only game for the Virtual Boy is exceptionally rare and highly sought after. Like *Gundam Dimension Battle* the game was made and sold in very small quantities and as the platform steadily increases in popularity, more and more collectors push the price up. Incidentally the price here would pale into significance should prototypes such as *VB Wario Land* and *Mario Adventure*, which were never released, appear on the market.

Pocket Reversi

Value: £100–140
Platform: Neo-Geo Pocket Color
Version: UK
Original release: 27/01/2000
Developer/publisher: Itsui/Success

It is likely that there were 1,000 of these made before they were shipped back to Japan but no one knows how many copies of the game actually escaped into the hands of consumers. The niche appeal probably means it was far less than 50 and maybe below ten. The Japanese version is worth very little in comparison.

Snatcher

Value: £90–110
Platform: Sega Mega-CD
Version: UK
Original release: 12/10/94
Developer/publisher: Konami

Hideo Kojima's excellent prequel to *Policenauts* earned its only English language release on the Mega-CD. Gripping, extremely sought after, especially in its UK guise, the plot gives more than a respectful nod to 'Blade Runner'. This is a Konami/Kojima-san collector's must-have and, alongside *Lunar*, the main reason to invest in the native hardware.

Dragon Ball GT: Final Bout

Value: £100–120
Platform: PlayStation
Version: US
Original release: 10/01/1997
Developer/publisher: Bandai

Inexplicably this terrible game continues to appear on the market and consistently demands very high prices. A sealed copy sold for $400 recently. Limited to 10,000 copies the game is a cult classic due to the anime tie-in and apparent Japanese popularity. Evidence that very poor games will sell way above their gameplay's worth if the conditions are right. The Japanese version is worth a fraction of this version.

To secure an NES development licence, Rare had to produce a demo. Nintendo was less than forthcoming with the machine's tech specs, so the Stamper brothers imported a machine and reverse-engineered it

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Atari's *Battlezone* (1980) was responsible for two firsts: not only was it the first game to feature a firstperson perspective, but it also inspired the military to use games for training purposes
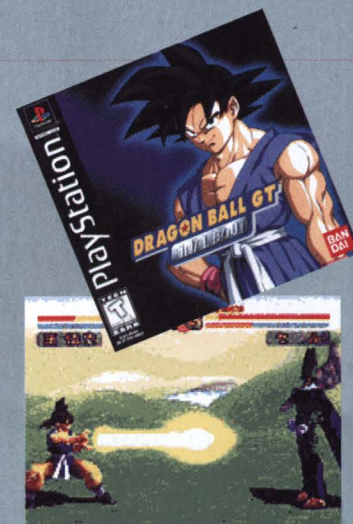
Arcade conversion

When you've decided that collecting a bunch of old VCS carts really isn't as rewarding as you once thought it might be, it may be time to scale up. **Retro** hunted down a different breed of collector altogether

A rcher Maclean (right) writes games for a living. Or at least he used to – *Dropzone*, the *International Karate* series and *Jimmy White's Snooker* were all programmed by him. After 15 years as a one-man-band, though, he formed Awesome Developments, and most recently joined forces with another company to become Ignition Entertainment, a developer-publisher company, where he heads up development on 128bit platforms.

Once famed for his love (and ownership) of fast, exotic cars, nowadays his interests appear somewhat more down to earth. If owning what might well be Europe's biggest private collection of coin-ops could ever be considered down to earth, that is.

Retro visited him at his luxurious home to see (and play, naturally) his collection firsthand and to discover a whole lot more.

Why did you begin collecting coin-ops?
It just sort of happened. Even though I'd addictively played all the machines you could think of from *Space Invaders* in '78 through to later games in the mid-'80s, it never occurred to me to buy one. Things kicked off in a small way in 1985, but it's only really gone mad in the past few years.

What I'm doing is paying homage to the all the great arcade games that inspired me so much to the point that I believed I could make a career out of creating games myself – and to create titles at least as good as the best arcade experiences out there. This went against all the advice from my uni lecturers, friends and family, but I felt like I was pioneering great things in the early days, and with perseverance I managed to singlehandedly write a few number-one games. Now, 20 years later, I can afford to buy these magnificent machines to play once again. Life's sort of coming full circle, if you like.

That all sounds grand, you might think, but as usual I've have bitten off more than I

RadarScope was Nintendo's first arcade game, released in 1980. It was a moderate success in Tokyo but bombed in the US, where the machines were eventually recycled for use as Donkey Kong cabinets
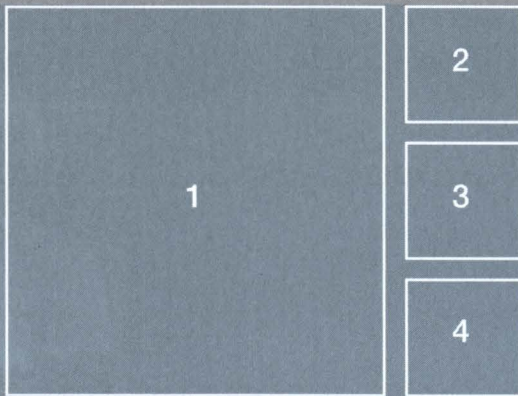
1. Father and son: *Computer Space* and *Pong*. How many of these have you seen working alongside each other today? 2. Much of Maclean's collection lives deep within his voluminous basement. 3. Bored? Nothing on TV? Simply head downstairs and take your pick from the entertainment on offer. It may take some time to make your mind up, though. 4. Having run out of room at home, Maclean has shipped several cabs to the he Awesome Developments office, where they live in a safe… 5. … behind a quite substantial door

Atari's *Pong* game wasn't just licensed out to Sears for sale as a home game; Nintendo also paid to use the game in its range of home *Pong* clones for the Japanese market, sold during the late '70s

can chew, and now I've decided to spend big chunks of my spare time restoring them back to as-new condition so that I can end up with a huge home arcade full of working cabs – and I'm developing all sorts of skills in the process. So much so, in fact, that the dedication I now put into the restoration feels remarkably like the good old game-programming days when it was just me acutely concentrating on writing an ultra-tight bit of code for a game. I sometimes disappear into my basement late at night and work on something intensely; the next thing I know the sun's come up and it's 6:00am.

When did you buy your first machine?
Back in 1985, I'd finished *Dropzone*, nice royalties were coming in, the game was at the top of the charts, and I'd just started writing *International Karate*. It was the year that arcades were closing down all over the

before occurred to me to try and buy one. The machine hadn't been treated very well, and in those days looking after the side art and so on wasn't given a second thought. Amazingly it lived on for years without breaking, although I did get a bad case of '*Defender* finger' where I wore all the skin off the knuckles of my left hand. This re-grew much harder – I guess my hand sort of evolved. [Laughs.] I can remember a few evenings where I would battle it up to over 1,000,000 points, which was such an effort that you didn't realise how much you were sweating or how much damage you'd done to your hands.

My whole early career was hugely influenced by Williams arcade games, and as I later found out this was especially true of all the the ones written by a certain Eugene Jarvis [see p62] – the legendary author of them all, and before that an amazing pinball

"One guy said he was looking to chuck out his *Defender* cab – I was over there like a shot and bought the thing off him for the sum of £100"

place, and I was running out of places where I could play *Defender*, *Stargate*, *Robotron* and so on, and out of frustration one day I picked up the Yellow Pages and started ringing arcades and asking what they had. Most operators thought I was well odd doing it that way, but one guy said he was about to chuck out his *Defender* cab – I was over there like a shot and bought the thing off him for the princely sum of £100. I loaded it into the back of my hatchback and drove it home with it sticking out two feet. It had just never

bloke. I'd study his games over and over, and stand and take in at the visuals and sound effects for ages, working out just how he had done things. *Robotron* was another amazing example of ultra-tight programming ingenuity. I was always trying to figure out just how he made so much move around the screen so fast with only an 8bit, 1Mhz processor, 48K of RAM, and a raster-generated screen image. It was really inspiring stuff.

What happened after that?
After *Defender* I was hungry for more. I then made over a hundred calls trying to track down a *Stargate* machine, which I eventually found in Blackpool. I think it was quite a bit more money, too. At first glance *Stargate* seems like it has more control buttons and joysticks than your average jumbo jet – and it's about as complicated to play, too. But it's ultra-rewarding.

In '85 or '86 it didn't occur to me to go an buy up some more, as I didn't even have the space anyway. But then I was on a business trip to Manchester in '87 and I was literally walking down a street in a lovely part of town called Salford and I spotted a *Robotron* machine just sitting there on the pavement outside a scruffy-looking arcade. I went in and cheekily asked why it was there. They were about to skip it because it wasn't taking any money and one-armed bandits were coining it in five times more for the same floor space, so it had to go. Two minutes later I stuffed £50 in the operator's hand and he put it back inside. I dumped my car and hired a Transit van, drove it 120 miles

home, then went back to get my car. So that was 500 miles in one day – it cost more in petrol, I think. I had to get three mates to help me get the thing up the stairs into my flat. It was stupidly heavy. It never occurred to us to check inside, but after we'd heaved the thing up I forced the lock on the back only to find three sand bags in the bottom – I guess maybe they wanted to stop it being nicked.

What's nice is that I still have this very same machine here at home to this day. It's also done some time at the Awesome Developments office, where we have about ten other cabs right now. It's a UK-spec machine, so it's smaller than the US version. Whilst I'll never sell it, and it isn't restored except for a rebuilt control panel, it's probably worth £1,500 to £2,000 over here now.

It's also probably the best classic arcade game ever written, and I do think it's one of the most challenging and addictive games of all time. Most other collectors would agree. It needs both hands doing different things, you've got to use both eyes all the time – blinking is not allowed – and both ears need to tell your brain stuff, too. Oh yeah, and you've got to breath and stay standing, too – especially difficult if you can hit the magic million mark. It took me ages to conquer the machine, never seeming to get past 250,000 or so, until one day I figured the whole thing out and had a memorable trip up to the million. Some years later I managed to clock my own machine (on its default hardness) past the ten-mill point at which point the scores reset – at level 350, I think. That took four hours and I had to go and chill out in a dark corner afterwards.

How did things escalate?
For maybe ten years I just kept the three cabs, as well as all my home computers, and I was more preoccupied with writing games. I can remember around about 1990/91 thinking it would be a good idea to hoard a load of them in a barn or something because they were so cheap, and I was watching how the classic car markets and antiques markets

Bally/Midway's *Asteroid* (top), from 1973, is a super-rare machine. There are only a couple of others in the UK – and they probably don't even work. Out of the entire collection, *Robotron* (above) gets the most use by Maclean (and the most commonly replaced joysticks)

Any collection clearly needs an example of one of the world's biggest ever hits

were all being talked up by specialist magazines and TV programmes. I thought about what hoarding a load, then setting up *Classic Arcade Collector* or *What Arcade Cab*, would do to prices. [Laughs.] As it has turned out, prices of some of the more collectible stuff has gone up 1,000% in the past ten years, and to complete my collection has cost me quite a bit, and taken me on hunting missions all over USA and Europe. I do know some other collectors who are Williams completists and want all the really rare Williams cabs like *Varkon* and *Inferno*, but I was more interested in buying/trading/swapping cabs to the point where I had just about every one that I remember enjoyably playing in the '80s.

"Nowadays I'm fortunate enough to have a decent-sized basement and I've turned it into a sort of donkey sanctuary for old arcade games"

Quantum (1982) is the sort of game you'd only really find today in a true collector's line-up. A relatively obscure Atari title, it uses a trackball to 'capture' particles and atoms. You can try it via MAME, but it's not like the real thing

What do you do with all the machines?

I figured very recently that I have all the cabs and pins I want, and now I have begun the enormous task of restoring them one by one. The *Black Widow* project has been the biggest one to date (see www.ionpool.net/arcade/atari/bw/bw_restoration.html), although luckily not all will be that severe. There is a growing USA-driven market for brand-new replacement control panels, side-art panels, stickers, marquees, T-moulding edge strip, and so on, for all the more popular machines. And some of the suppliers have excellent items, like www.arcaderenovations.com.

I've got such a big job on my hands for the next year or two that I've bought all sorts of weird equipment to enable me to make my own artwork, especially for some of the more obscure machines. But also, back in the summer, the studio manager at work, Graeme, and I spent some time scanning and digitally preparing a brand-new control panel overlay for all the tired UK-spec *Robotron*s out there. I've been let down by all sorts of people involved with the printing/manufacturing process that I recently decided to buy the equipment needed, second-hand, to enable me to do it myself at home. It's not exactly economical but it will enable me to do all my other rare machines, given time. It's become a real labour of love. But I'm not alone in this type of quest. The UK's biggest *Robotron* expert, Dave Langley, lives breathes and thinks *Robotron* all day long – check out his hugely informative Web site at www.robotron-2084.co.uk.

You must still hanker after some machines.

There are only a couple more, perhaps. Two years ago someone in the States emailed me

a pic of a cocktail version of *Robotron*. I didn't even know such a thing existed and it became a sort of Holy Grail for me to find. [Laughs.] Certainly none ever came to Europe, and there were only 100 or so made 20 years ago. Most have been hacked about operators over the years, and badly converted to more profitable games like *Space Invaders*, so very few still exist. Hunting down one for sale has been something of an obsession for a long time. Only recently did I manage to find a nice working one in the USA, and I whipped out my poor old credit card, and even paid for it to be crated up and air freighted over to the UK – which cost a further £500 after VAT and customs, etc. That makes it very expensive – but I now have it and it's one of my most cherished possessions.

I'm still after an original minty *Crazy Climber* from Nichibutsu, 1980. They don't cost much in the USA – maybe $200-400 on ebay or from a collector – but it's just one I haven't managed to get. I'd also quite like to track down a working *Carnival* – just because the sound effects were so funny. Again, it's not expensive or particularly collectible, but I have special memories of it.

Some cabs here are rare. What other 'Holy Grails' have you hunted down?

Most of my cabs are the popular ones I remember playing to death 20 years ago, but I also have this collector streak in me which wants to trace the roots of the videogame business right back to day one. After all, it's provided me with the wherewithal to do all this collecting and restoring.

As for other Holy Grails, well, yeah, I'm still a huge evangelist of anything Atari. If it wasn't for a certain Nolan Bushnell, the entire games industry may never have happened. I have certainly tried to obtain all the well-known ones, and a few of the ultra-rare ones like *Major Havoc* (I have an original 1983 dedicated cab), a 1982 *Quantum*, and, most treasured of all, a *Missile Command* sitdown cockpit. I think it's the only one in Europe, and I only know of a couple left in the USA.

Where did you put your first machines? And what do you do with them now?

Initially I just put the two or three I had right in my sitting room. I played them to death, and most of my friends would come round for a blast, too. Meanwhile normal people – whatever normal is – thought I was nuts. [Laughs.] Nowadays I'm fortunate to have a decent-sized basement and I've spent years turning it into a sort of donkey sanctuary for arcade games, with all my repair gear and workshop bits down there. The fully restored ones get put in the main house area, and I move some to work. Sometimes I'll trade one restored machine for two scruffy ones or whatever – and that's how it can get out of

Warrior is one of Maclean's stupidly rare cabs. It projects UV light on the playfield and is probably the only working example in the world right now

hand, number wise. But I have more or less got no room left and I've had to stop collecting. The next part of my mission is to complete the restoration on them all. You'll have to give me a few years, though.

Can you work out how much you've spent on this hobby?

I hate to think! Probably enough to buy a very decent car. I couldn't really sum it up, because it's been a hobby that's been growing for nearly 17 years and in that time I've simply accumulated a vast amount of stuff which is gold dust to me and rusty crap to everyone else. I've lost count of the amount of time and money I've put in. I don't think you'd make a living out of it, as it really is more a labour of love-type of thing. Some people train up whippets for racing, others track down some peculiar antique bit of china because great Aunt Maud had one, and my passion is for collecting and restoring arcade games. Simple, really. [Laughs.]

So what are you going to do with your collection when you're old and grey?

Me? Old? Grey? No, seriously, I don't know. I tend to hoard stuff if I have somewhere to put it while leaving the main living area of the house clear of everything. I used to collect and restore classic LED and LCD digital watches from 1970 to 1985 and I haven't sold them. I quite often wear them, too. So I don't know. I don't plan on getting rid of them any time soon. Maybe I should set up a museum! [Laughs.]

One thing I am very keen to do, when I have more time – yeah, right – is brush off my old programming skills – because they're still in there – and actually write a brand-new game for the old colour vector machines. I think I could really do something special, and actually end up with a game in maybe 32K of ROM that other collectors around the world could try out. Just think: a brand-new Atari-style game on the old classic hardware, but created in 2003/4!

How much do you actively play?

I play some machines more than others. I probably play *Robotron* once a day. *Asteroids*, *Pac-Man*, *Missile Command*,

Before reaching the final name of *Missile Command*, Atari's 1980 game was called 'Ground Zero' and 'Armageddon'

Space Invaders – they all get played quite a lot. And most weekends I'll have a blast on the *Twilight Zone* pin.

Clearly you had a significant involvement with computer games back in the '80s. So how do you compare gameplay experiences of yesteryear to more contemporary games?

We were talking about that work the other day, when I installed my *Star Wars* sitdown over there. It has this amazing 26" colour vector monitor in it and you sit cocooned there flying through space shooting X-Wings, and then you go down the Death Star trench while Darth Vader deep breathes into your ears and haunting film quotes from Alec Guinness play out, which makes the hairs on your neck stand up. Some of the lads are hooked on it. And some of them were barely born when the game original came out. But what makes me laugh is that some of the modern 'Star Wars' games have the same basic gameplay plot – about the X-Wings and the trench, etc – but rendered with millions of polygons and using imagery directly out of the films, and yet it's not 'more fun'. I still think that gameplay is what makes or breaks a game, not the quality of its graphics on its own. The basic gameplay mechanic in the old arcade games was usually very simple and done by one person, and those designs have stood the test of time.
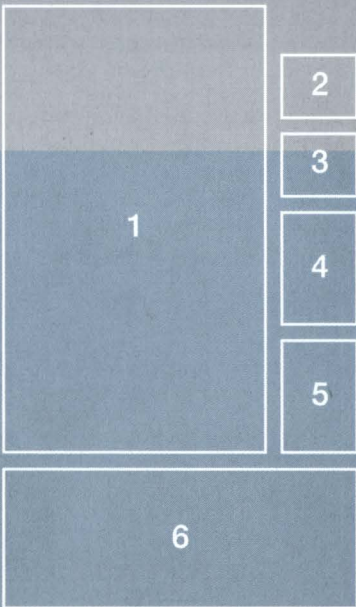
1. *Twilight Zone* is neither old nor particularly rare – but it's respected by pinball aficionados as one of the best tables in existence. 2. *Computer Space's* control panel gives a hint about why it may not have gone down so well back in simpler times. 3. A living legend. 4. A proper play room 5. *Dragon's Lair II* – still working after all these years. 6. Entertainment as art (to some, at least)

Urban myth: *Donkey Kong* was called 'Monkey Kong' until a garbled fax from Japan changed the first letter to a 'D'. Wrong – the name was intentionally chosen, Donkey as a synonym for 'stubborn', and Kong to mean 'monkey'

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Despite Magnavox suing Atari in 1975 on grounds that *Pong* copied an Odyssey game, Ralph Bear (the Odyssey's inventor) was hardly innocent: his popular electronic game Simon bore a remarkable similarity to Atari's Touch Me

Resurrection man

Having spent many hours playing on his vast collection of sparkling coin-ops, **Retro** played Archer Maclean at snooker before delving into the darker side of his hobby: locating, buying and restoring cabinets

I t's all very well just steaming in and grabbing anything you can get your hands on when you're looking to begin collecting coin-op hardware, but it can be a particularly messy business, especially if you start out looking in the wrong places. Surrounded by countless curios in Archer Maclean's voluminous basement, **Retro** sought some advice from a seasoned expert.

From whom do you buy cabs? And how? What about moving them or shipping them in from the US?

Some I buy from friends, or I'll do a swap for one I've restored and I want something else. I've purchased loads from ebay via the US and the UK. And that's a risk, as I prefer to buy something after physically inspecting it. But 99% of the time ebay's pretty reliable, and its audience is just so huge that almost everything you want is on there at one point or another. Sellers and buyers all have

feedback attributes so you get a good feel for the person you're dealing with.

I've also gone over to the USA on 'holiday' and travelled around to meet some of the really huge American collectors – check out www.vaps.org for collectors all over the world and what they have – as well as some interesting statistics. I even once bought a job lot from a closing-down warehouse for a one-off fee covering numerous cabs in various states of disrepair, and boxes and boxes of 'useful' junk, and then had some fun and games organising a container load of it to be shipped back to the UK by sea. The customs men had to X-ray the lot to make sure there were no Mexicans in it, I think. I usually leave all the paperwork and logistics to a specialist agent, such as Frans Maas Worldwide. They can save you a huge amount of hassle, as it's quite a minefield. I've also bought individual cabs and the seller will crate them up and then

From the home to the arcade

Maclean's *Dropzone*, a vivid, hugely polished *Defender* clone on the Atari 800 and Commodore 64, was nearly turned into a coin-op itself. Maclean explains:

"In 1985 I was approached by an amusement company who wanted to turn the Atari 800 home computer version of *Dropzone* into a real-life money-taking arcade cabinet. They'd looked at the game and decided it was sufficiently challenging and polished to turn it into an arcade machine version, and asked if I'd be interested in making it a reality. I didn't need much persuasion. [Laughs.] I took the Atari version of the code (which was way better than the heavily cut-down C64 version) and added arcade-style difficulty ramp-ups, and coin-slot logic, credits messages, and an extended attract sequence, and so on. This was then all put inside a well-used Williams *Defender* cabinet, with a *Dropzone* marquee [the back-lit logo section above the screen area], and a great big industrial-looking clicky joystick, and it was tried out in

an arcade in Luton, of all places. I remember being told it took £300 in first week, which was as much as *Defender* did, so pound symbols lit up in our eyes, and we got to work making proper cabinets for it. But the slowdown in the arcade market was taking its toll everywhere, and some weeks later the boss rang up to say they were sadly unable to proceed due to the rollout costs getting too high, even if we did just stick the game in general-purpose cabs. It was a big shame, really.

"Anyway, I still have that code, and just recently I've been making up a brand-new 2002 arcade cabinet in the shape of the classic Atari cab style of '82, and it's very nearly there. It uses the original Atari 800 hardware within the cab, and does have all the coin-slot logic and extended attract sequences. It also has stunning new artwork and some very clever fibre-optic animations as well. I might do a batch of ten or so, because some of the other grown-up kids (or collectors) out there went through the same era as me and have expressed serious interest in buying one. Arcade *Dropzone* will rise from the ashes yet."

Maclean prepares *Dropzone* cabinet art using his own giant inkjet printer

"When the coin-op turned up the seller hadn't bothered to wrap it very well and it was severely damaged. And it didn't even have a raster monitor"

ship them individually. This costs, but usually the total cost of purchasing them, crating, shipping, handling, customs duty and VAT is still less than the price of what's already over here, and also USA-sourced cabs are generally much better condition than UK versions, for their age. There are some arcade and pinball warehouse operations here in the UK, but I'm deeply unimpressed with their quality and astronomical prices for what they offer, which wouldn't be so bad if the cabs were at least cleaned out or partially restored and made to work. You could come away from some of them feeling as if

you'd bought a clocked car made out of two write-offs. Not good.

But buying without physically seeing them can be a risk. Once I bought an Atari *Space Duel* colour vector game cheaply for $150 on ebay as 'not working'. It looked good enough in the pics, and it cost me $400 to ship – which is still good value when a nice working one in the UK might be £1,000 or more. But when the thing turned up the seller hadn't bothered to wrap it very well and it was severely damaged. What's even more galling is that it didn't even have a vector monitor in it, but a simple raster monitor which was cracked at the neck, too. That was all a bit of a disaster. Still, at least the other bits were salvageable and worth something to me – and the side panels of the machine are nailed to a door downstairs. They look like modern art. [Laughs.]

What skills do you need to collect?

Well, most arcade games were designed to have a working life of three or four years. They were made to play about 20,000 games in order for the operator to break even and then make money. But I very much doubt anyone could have predicted that those same machines would survive for 25 years. [Laughs.] Some that I've seen have coin counters registering 250,000 plays.

Most 'skills' are of the common-sense variety, but some basic electronics knowledge is a good start, as these things can and will go wrong. Being able to do some cosmetic repair and apply aftermarket

Maclean keeps his own supply of processors as vital spares. Many are no longer manufactured

There's probably something useful among all this clutter. You may have to dig deep, though

Restoring a *Star Wars* cabinet is hardly a minor undertaking. But then consider the end result...

artwork is good, too. Knowing your way around the Internet is definitely a plus point because there's masses of information, manuals, schematics and dedicated Web sites popping up all the time. Most collectors are very Web-literate and some offer some fantastically useful information on how they fixed certain problems with certain cabs. Oddly, arcade-game knowledge is far better supported than pinball is with that type of collecting.

Maintaining a working cab is another issue. They were generally made out of painted chipboard which nowadays disintegrates to nothing if water or damp gets anywhere near it, so storing one in a damp garage is not a good idea. Restoring the sides and control panels is just one aspect of it, because the electronics inside are also simply crumbling back into sand. They typically have a 25-year old 1MHz 6502 microprocessor, some 1K RAM chips and 16K EEPROMS that all run very hot. And they simply stop working after running for 25 years. That's ten million minutes of time. [Laughs.] How many people do you know with a 1980 colour TV still working?

So it's a tall order to expect a 25-year-old cab to still be 100% reliable. The situation is similar to buying a 25-year-old well-used car with no service history, all sorts of bodged repair work and 250,000 miles on the clock. My advice when buying cabs is similar to cars, too: don't buy the cheapest thing you find – buy something that's preferably working and not too abused, as this makes a good starting point. You don't have to go to some of the rip-off warehouse operations out there; instead use the huge and highly organised ebay auction sites, the various collector newsgroups and collector sites where the owner sells them as well as offering advice.

With care, these games can be made to

"Moving cabs around can cause all sorts of problems. The wood sides can come adrift, and wires break"

Maclean's guide to Internet resources

"Don't buy the first thing you come across – wait," says Maclean. "Look around, check out what's available, look at various traders' Web sites, but most of all, perhaps, look around that great melting pot called www.ebay.com. Study it, and see what's available, what's popular, what level of interest there is, and learn as much as you can from looking around the Web. These are some good sites to start off with:

|	
www.ebay.com	*The* market place, with 5,000+ arcade items for sale at any one time
www.ebay.co.uk	UK-based stuff, but less than a tenth the size of the USA version
www.klov.com	The Killer List Of Videogames – a brilliant resource
www.vaps.org	The Video Arcade Preservation Society – check out who's got what
www.basementarcade.com	A good source of parts and advice and more links
www.spies.com/~arcade/	An amazing source of rare game manuals and info
www.robotron-2084.co.uk	A dedicated Williams site mostly for *Robotron*
www.atarihq.com/museum/coinops/index.html	A dedicated Atari Web site
www.arcadeshop.com	You'll find masses of electronic and mechanical parts here
www.dragons-lair-project.com	Want to know all about *any* laserdisc game?
jmargolin.com/xy/xymon.htm	An example of brilliant vector monitor advice

Remember that there's a huge wealth of information about this hobby and there are thousands of sites. I also believe that if you put some hard-earned cash into a machine, but wisely, and look after it, you won't lose your money. The enjoyment factor will be far better than sticking it in the bank. Finally, collectors can email me via arcade@awesome.uk.com."

live on for quite a while yet. There's a growing army of collectors and small businesses – especially in America – who now offer reproduction artwork, control panels, plastics, and monitors. Things like electrolytic capacitors dry out in the high temperatures within a cab, and monitors use loads of them. These tend to explode or fail, so there's even an industry in supplying kits of replacement capacitors so you can 'cap' your monitor or power supply and, remarkably, it brings life back to the machine. Most of the chips are still available, but are dwindling in numbers – and I've stocked up on loads of rare chips and have drawers full of the things.

I can repair my own circuit boards when they go pop because it was my degree subject, but fortunately there are some very clever electronics people out there in the collector world, like my mate Phill who can

Up, up, down, down, left, right, left, right, B, A, start number one: Not *DDR* moves in this instance, but it does relate to Konami – it's a generic cheat for a host of old Konami games across various platforms

1. Looking inside *Computer Space* reveals the complexity of creator Nolan Bushnell's engineering. "The three PCBs hold pure logic chips of the TLL/DTL variety," explains Maclean. "The entire game works off a dedicated logic design and is incredibly ingenious for its time. This was put together by a very focused mind, without the use of modern logic or chip design tools." Look carefully and you can see something rather less sophisticated: a paint can for collecting coins. 2. Pinball maintenance: not for the novice. 3. Inside *Pong*. 4. Spares sit around waiting to be needed
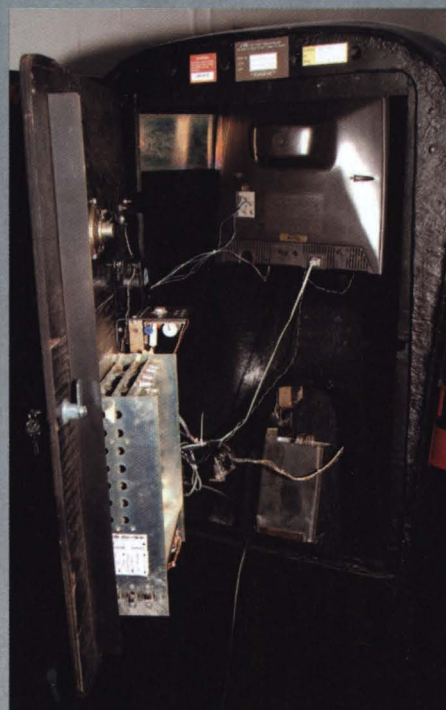
debug and repair just about any problem with any *Asteroids* board I've ever thrown at him when I haven't been able to fix it. These people are rare indeed, and some of them commit their knowledge to big HTML docs on the Web for the benefit of the rest of us, and they make the hobby more possible and worthwhile for those fascinated by cabs.

What sort of values would you put on those machines?

That's a big question which everyone will have an opinion on. But a collector will pay what it's worth to him, especially for the more unusual machines. But with something like a full-sized yellow *Pac-Man* cab, there's a defined marketplace like ebay where dozens appear and get sold every day, so declaring a typical price point is valid. I'd say in terms of USA prices, a working *Pac-Man* in reasonable shape but not restored would set you back maybe $300-500. One that's reasonably tidy that's had its power supply modified, and with maybe a new control panel, is going to be $400-700, and the best ones fetch nearer the $1,000 point. Over in the UK they're actually quite rare, but £500-1,750 might cover the same condition points.

As for any of the Atari classics, it's the same story: a working *Asteroids* or *Missile Command* could fetch anything from £750 up to £1,500 for a mint one. But they don't tend to come up very often, which is why stomaching the cost of shipping in a cab from the States makes sense. Oddly enough, *Pole Position* can often be seen on ebay very cheaply – £100 for the whole huge thing, albeit tatty.

Moving cabs about can cause all sorts of problems. The wood sides can come adrift from each other. Wires finally break, connectors fall off, loose coins and screws lying in the base of the cab can lodge in the middle of the power supply, causing havoc, monitors might work for a test play but leave them on and they might go pop due to age half an hour later. I've sadly seen cabs so badly mishandled in transit that they've just been crushed under straps that were too tight. Once I saw a pinball machine that had two forklift prongs straight through it. And that's really not very nice.

The Grandfather

The man who first preached videogames to the masses is still in the industry 31 years later. But what happened along the way?

I f any videogame industry player deserves to have his story told, it has to be Nolan Bushnell. And told it has been, via countless magazine articles (both specialist and mainstream), books and television interviews. He engineered many videogame hardware miracles. He took on rivals and beat them every time. He even tried to take Japan.

But the Nolan Bushnell story always appears fractured, as if there are other facts hiding behind the anecdotes that pour fourth freely from the genius engineer-turned-legend. Retro set out to fill in some of the gaps.

Let's begin at the beginning. Eddie Adlum, a journalist in the '70s, said he met you at a trade show in 1971 when you were showing off *Computer Space* **for the first time. He said you were as excitable as a kid. What was going through your mind back then?**
Well, first of all I was 28 or 29 years old, as green as grass, and all of a sudden I had my first big invention product displayed at a trade show. It was the first time I'd ever been there, and it was just about as much fun as you can possibly have because our machines were so different and so unique and so mesmerising that in some ways it was like… Well, a couple people described our booth as being transported there from another planet. And I loved that. [Laughs.]

It's been said that the industry wouldn't have taken off the way it did without your involvement in terms of your charisma. Do you think that's true?
I don't know whether I viscerally understood this or if I thought it through, but I felt that the coin-operated game business up to that point was almost a shadow industry, it was something that people didn't really talk about or think about. Y'know, pinball machines were

there, and there were some electromechanical arcade driving games and things like that, but to have a piece about games in a *Newsweek* or a *Time* or *Fortune*, it just didn't happen, and I felt that you not only needed to sell your product to the trade, but you also needed to sell your product to the public, and I wanted to do a few things about that. One, I wanted games to be able to go everywhere, so we always made our games a little more understated without all the flashing gee-gahs and stuff, so that if somebody wanted to put them in a nicer cocktail lounge they could do it without feeling embarrassed by it. So we were bringing the games to the mainstream. And it worked; it allowed a lot of people who would never have been around a game before to be around games, and it allowed women to play in huge numbers, which was also something that was brand new. Women just didn't play pinball machines, in general. They didn't play arcade games. Huge numbers of women played *Pong*. I think that the videogame would have happened without me, maybe a few years later, but I believe that it may have taken on a slightly different spin without me, and I think that I was able to capture a lot of interest on the part of the press and the

public in general, which may not have happened with someone else. Or it may have in fact happened much better with someone else. But at least it was very different to the business up to that point.

So you actually went out and purposely PR-ed the industry.
Absolutely. In fact I think Atari may have been the first coin-operated game manufacturer to ever hire a PR agency.

***Computer Space*, which flopped, must have been a learning experience for you.**
Absolutely. One of the things I learned with *Computer Space* is that there's such a thing as too much innovation. I mean the fibre-glass cabinet was so different that even though the public loved it, a lot of the operators couldn't quite understand how this sort of look could work – it was a space game, it was supposed to look spacey. I mean I can remember how proud I was when it was selected to go in the movie 'Soylent Green', and all of a sudden one of

"Ralph Baer is undisputedly the father of the analogue videogame, and I'm undisputedly the father of the digital videogame"

my children was in a movie. [Laughs.] It was one of those things that allowed the public to see things and by extension want to go out and play them, and I think that it ultimately helped the marketing and the actual coin drop for a lot of the machines. *Computer Space* probably did something that was even more important – for me – in that I had licensed it to a company called Nutting Associates, which was a somewhat troubled coin-op manufacturer. I say that in the brilliant illumination of 20:20 hindsight. Well, actually, I knew it back then: it was run by a bunch of clowns. They were really not good businessmen, and I had worked at an amusement park while I was in college at a relatively senior level – I had probably 150 people, mostly kids, working for me during the summers. The amusement park was extremely well run and so I'd seen well-run operations and I'd been a part of well-run operations even though I was a very young man. And Nutting Associates wasn't any of those things. [Laughs.] I was an engineer, and my plan was to be a creator of games and licensor into the regular coin-op world. But Nutting gave me a real insight into the fact that you could have a certain amount of success by basically doing everything screwed up. And it gave me the confidence to say: I can't possibly screw it up any more

than these clowns and it gave me the confidence to go off on my own. And so I thank them for that. [Laughs.]

Apparently only 1,500 *Computer Space* units were manufactured, but it's been claimed that Atari couldn't even sell all of those. What happened there?
There were all sold. In fact, the number I remember is 2,300, but you know it's been widely reported as 1,500, but I'm pretty sure it was 2,300. In fact I've tried to go back and look at the royalty receipts that I had which would really track that.

Moving on to *Pong*, there are many rumours concerning its creation. It's been said, for example, that it was programmer Al Alcorn's idea to allow spin to be put on the ball, and to introduce varying ball speeds. So who was really responsible?
Doing the increasing speed was definitely Alcorn. It turns out that you can't put spin on the ball; it was strictly based on where on the paddle the ball hits. So if you hit it on the corner it has maximum angulation, and in the middle it comes straight back. I remember that I told Al to do it that way, and he remembers that he did it by himself, and I really don't care. [Laughs.]

It sounds like you don't really care for that sort of question.
There are a lot of people in the press who like to create some kind of controversy between myself and Ralph Baer, who did the Magnavox Oddysey. That machine clearly predated *Pong*. There's no dispute on that. The reality is that it was all based on an analogue technology. And I have never said that I invented ping pong. And I've never said that I invented an analogue computer game. I had the patent on a digital computer game that turned out to be successful and the analogue one turned out to be a big flop. I give Ralph a tremendous amount of credit for being innovative with the technology that he understood and used; it was just not sufficient. So I don't mind the questions being asked. I hate the spin that somehow there's a dispute on who was the real father of the videogame. As far as I'm concerned, Ralph Baer is undisputedly the father of the analogue videogame, and I'm undisputedly the father of the digital videogame. I don't want to take anything away from him,
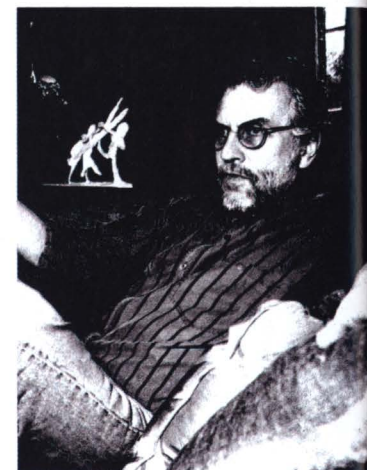
because the market chose what they wanted – which is the best? [Laughs.]

What about your place in history? Does that matter to you?
That's a hard question. I'd like to say: what have I done for you lately? All this history is all fine and good, but the projects that I'm working on currently are much more interesting to me. But I'm extremely proud of Atari and the place that it had, and I think that the way that early videogames were created clearly put it into the market four years before it would have been otherwise because you need to remember that we created the first game that had a microprocessor in it – *Asteroids*. We were in the business long before microprocessors had been invented, so in order to work out costings – to get the things to work at what was extremely high speeds in those days – we had to do some pretty clever tricks. And I'm proud of those clever tricks. [Chuckles.]

Atari seemed for a little while in the '70s to be going down two different paths – raster and vector, eventually settling with raster representations.
In the early days the computer technology that was available at a reasonable cost was just damn slow. So there was a certain set of games that were simply impossible in a raster because memory was extremely expensive, so to do a screen map was just cost prohibitive. And there was a kind of brief moment in time between the point that the computers were too slow and memory costs were too high, where the only way you could do certain types of games was with a vector graphics display. The problem with vector graphics displays is that the rasterscan is constantly updating itself; with vectors you're actually limited in the number of inches you can draw without starting to induce flicker. You had to redraw and redraw and redraw in order to keep the image there because the decay on the phosphors in general was in the matter of milliseconds, so you could create sparse kinds of things that were very difficult to calculate and display rasterly. There's another aspect: the real problem with vector graphics was colour, because the way you would do colour in those days was with beam penetration: you'd actually have to switch the high-voltage power supply and hit the phosphor harder for red than you would for green. The real problem was that you had the switch high voltage at extremely high speeds to change the colour and that led to technological issues. We used transistors in those days that were doing that high-speed, high-voltage switching, and it was hard to keep the machines robust. So that was

Nolan Bushnell originally called his company Syzygy (coming from a term for planetary alignment) but settled on Atari (meaning 'check' in the Japanese game Go) on discovering that he'd been beaten to it by another outfit

ROCKET

SAUCER

TIME

COMPUTER SPACE

A SIMULATED SPACE BATTLE THAT PITS
COMPUTER-GUIDED SAUCERS AGAINST
A ROCKET SHIP THAT YOU CONTROL

COMPUTER SPACE

FIRE
MISSILE

Computer Space (1971)

Nolan Bushnell's first commercial venture was this
curvaceous beast, a fibre-glass cabinet housing
a reworking of mainframe favourite *Space War*.
Players piloted a rocket against flying saucer foes

During the lowpoints of the 'Great Crash' through 1982-84 Atari lost so much money that its losses stood at $536m

another issue that made it difficult. The high-speed switching power supply, as clever as it was in terms of technology, was just stressing the hell out of the state of the art, so service and reliability was an issue. That's why you generally don't find an operating *Tempest* today.

We invited readers to tell us what they'd ask you if they met you, so let's move on to some of those. What was the first point where you thought that games had advanced significantly past *Pong*?
It's kinda funny because *Computer Space* was much more complex and more difficult than *Pong*, so in some ways *Pong* was a step back. The next game that used more difficult technology and was incredibly fun were the *Trak* series of driving games. It was those with which I felt like we were starting to get the technology to the point where we could do some very, very interesting simulations. Even though *Pong* was a simulation of a ping pong game – kinda – it was sort of of its own, whereas the *Trak* series were actually racing simulations, so I kinda considered it to be the first of the simulators, if you like.

Here's an unusual one: what role do you think marijuana and booze had in terms Atari's inspiration back then?
What a lot of people don't understand is that we were perhaps one of the early companies that really tried to be employee-friendly, so we were very much of a carrot, not a stick, kind of employer. And the reason that we got the reputation for the backlot beer busts is because everybody knew that if we hit our numbers at the end of the month that they would be a company-thrown beer bust. And so the fact that we were personally having beer busts said that we were constantly hitting our numbers. There was actually a strong business aspect to it.

Marijuana at that time was considered to be something that helped you creatively, and that sort of stuff, but I'm not sure whether or not it helped, with 20:20 hindsight. We had a management team who were all in their late 20s, early 30s, and when we'd have planning sessions some of us would – actually, some of *them* would… [Laughs.]

Ah, so *you* didn't light up…
Hey, I now have teenage boys so I have to send the right message. I actually think that at the very least we thought it was making us creative. Certain studies since have said that that's as far as it gets – it makes you *feel* like you're being creative. [Chuckles.] We definitely felt that.

So despite what's been said, you couldn't put Atari's inspiration down to any kind of 'mood enhancers'.
I don't think so. In fact, one of the things that I think was very good about Atari, in creative terms, is that we developed a process of innovation in which a lot of it it was everybody's idea: it wasn't necessarily anybody's idea, it was a kind of shared teamwork – share the glory, share the fun. We actually got a little bit of added perception that there was a lot of grass smoking going on because we had a research lab in a place called Grass Valley, California. It had nothing to do with marijuana, it was just named that, but when it comes out in the press, saying, 'The thinktank's based in Grass Valley', a lot of people thought that that was clearly an allusion to marijuana.

The collaboration you talk about makes it sound utopian, almost hippie-like.
It was.

So when did the egos come into play? Was that when the company grew to become a lot bigger?
I didn't think there were a lot of egos in the company until after Warner got hold of it. And then things changed drastically. Significantly for the worse, I think. I should point out that there was no major innovation that came out of Atari after my core team left. Nothing. And that, of course, led to the debacle in 1983 where it basically hit the wall going at 120 miles an hour.

How did that make you feel?
I was very sad because it was totally predictable. In fact it was one of the parting salvos that I had: I told the Warner management that the 2600 was dead, they just didn't know it yet. And they'd just bought the company and here we were just starting to market the 2600, and I said if we don't start developing a replacement for it right now it won't be ready in time to take up the slack and to have an easy transition. And they thought somehow that I was committing heresy. They were absolutely against developing a replacement for the 2600. And then when they finally kinda woke up they created what I consider to be a relatively horrible product in the 5200. It was totally rushed, it wasn't based on really good technology at that time, it was based on

kinda warmed-over Atari 400 technology. It was just a debacle.

And the 7800 was much later.
Yes, that was a long time later. That was after the company had basically had its heart ripped out.

What would have done differently if you knew then what you know now?
The first thing: I would not have sold to Warner. Second, I would have maintained the innovation space. I actually think we would have had online gaming in the late '70s, because we had a high-speed modem project inside Atari. We were in a world of 300-baud modems in those days, and we'd actually developed one that was up into the 2200s. If you look back into the patent registers you'll see that Atari have some

> ## "We would have had online gaming in the late '70s. We were in a world of 300-baud modems; at Atari we had one that was up into the 2200s"
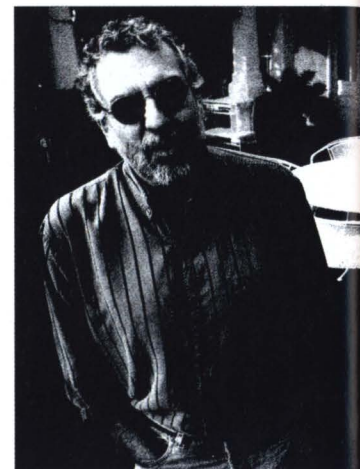
extremely forward patents on telecommunications. This all started before Warners got involved, and when they saw what we were working on they couldn't understand what the hell we were doing in the telecommunication side, and they didn't see the whole link-game thing, because they weren't really gamers. And they didn't understand that there are games that are Solitaires and there are games that facilitate human interaction. And we were just aimed in that direction so heavily… All that got killed. If I hadn't sold it I would've definitely had a replacement for the 2600 probably three years after we introduced the original machine.

You had the technology in mind?
Oh, absolutely. I even knew the cost! [Laughs.] And I believe that Atari – probably if it hadn't been sold to Warner – I think Atari easily could've been Apple Computer and Nintendo wrapped into one. Maybe not. Maybe there would've been a whole bunch of other things… But the people I had assembled could've easily… I could go into why Apple was able to beat the Atari 400 and 800, and it came right down to software. Y'know, after somebody's bought a 2600, the early adopters, they've had it for three or four years, and they're clearly ready to get something better. And with just pumping out the software, no matter how profitable it is, you've got to get better hardware; this wasn't like the record player, it wasn't like a VCR, it was something that you had to move

< 040 > Atari made $70m after suing Sega and others for infringing its copyright on the 9-pin joystick port. Because of the shared hardware, controllers are backwardly compatible: Mega Drive pads can be used on Atari's VCS, for example
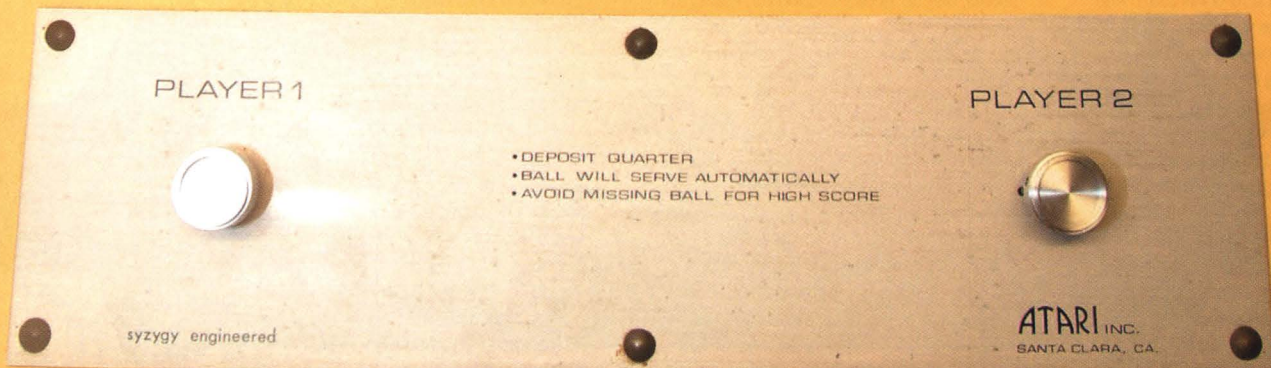
PONG

< 041 >

Pong (1972)

Having been burned by *Computer Space*'s disappointing performance, Nolan Bushnell went back to basics for this, the seminal coin-operated videogame of bat and ball

PLAYER 1

PLAYER 2

• DEPOSIT QUARTER
• BALL WILL SERVE AUTOMATICALLY
• AVOID MISSING BALL FOR HIGH SCORE

syzygy engineered

ATARI INC.
SANTA CLARA, CA.

with the technology or you died. And I think that's been amply proven since.

How did you find dealing with the Japanese side of the industry?
We had a lot of trouble selling the 2600 into Japan. If you went into a Sears Robuck you could generally buy a 2600 for $149. We actually sold into the Japanese market at our cost, a little bit cheaper than we were selling to Sears, but if you went into a Japanese department store to buy an Atari 2600 you'd have to pay over $300 for it. And there were so many barriers that were put up against an American company selling into the Japanese market that they essentially held out competition until one of their own, namely Nintendo, came along with their unit, so that it was a virgin market for them.

Which fights did you enjoy the most?
I never really felt that any of the legal issues that we were a part of was ever a big part of Atari. We had a few legal skirmishes, but they were not a big deal. The fights that were fun were the ones for market share, the coin-op business. And that was one where during the first three years of our existence we were up against companies that were much better capitalised, with much better factories, and much better systems and procedures, because we were making it up as we were going along. And to be able to go from zero to an 85 per cent market share was highly rewarding to us.

"I don't think anybody takes Atari seriously as a competitor today. I'd love to own it. It could mean innovation again. It just doesn't now"

And I think the next fight that was fun, but difficult during the time – I mean, when you're in the middle of a fight, it's really difficult – but it was the fight to get distribution for the consumer game. I mean, we went to the toy show with the first consumer *Pong* and sold none. Zero. And then we went into the consumer electronics world, the appliance world, and sold none. It wasn't until we finally hit the Sears sporting goods department that we were able to get a retail channel. We went to Radio Shack, we went to everybody, and got turned down 100 per cent. And yet we knew that there was demand on the part of the public. But there were no channels. I mean, think about the problems that Apple had with the first consumer computers – there were no channels. Radio Shack at the time thought of themselves as a hobbyist store – it was tough to get distribution. And that was a real

fight. We felt like we were being blocked by a bunch of neanderthals at every step.

What do you think the Atari brand represents as it exists today?
I believe that the Atari name, unfortunately, today is strictly a historical icon. I don't think it means anything other than the name of a company from the '70s and early '80s. I don't think anybody takes it very seriously as a competitor, as something that's relevant any more. I personally would love to own the name, and market new, innovative products with it, because I think that it could mean innovation again. It just doesn't now.

You fathered the coin-op industry and then went on to father the console market. So you created two sons. What do you think about the younger one killing the elder?
I don't believe that the arcade was killed by the consumer market. I believe that the arcade business committed suicide. And they committed suicide by forgetting who they were. And what really happened was the arcade *thought* they were in competition with the home, when in reality they weren't. The arcade market didn't understand that there's an out-of-home experience and there's an in-home experience – and they're quite different – and the arcade business killed itself because the economics blew up on them, and it blew up on them because they felt that they had to do bigger-faster-

better. So as a result they were trying for more MIPs than you could get out of a home game, more polygons, etc, and this meant that the hardware that the coin-operated game business was using was constantly moving so that there was no economies of scale, and so all of a sudden you had coin-operated games with engineering budgets of five and ten million dollars. Well, the arcade business isn't big enough to pay for all that engineering. So what happened is that there was huge price escalation, and pretty soon instead of costing two or three thousand dollars arcade games were costing ten and 15 thousand dollars per seat. Well, in order to make that amortise all of a sudden you're having to charge a pound a play, maybe two pounds to play. And if you look at how much inflation that was, the cost escalation was so dramatic that two pounds for four-and-a-half minutes is really, really high-cost

entertainment. And so they ended up pricing themselves out of the market on one hand, but on the other hand they did another thing that was even worse, because when costs go high, risks go up, and so innovation suffers. And risky things aren't tried. And risks are where you get the new, reinvigorating product. So if you really look at the games that have been developed for the arcade business for the last five years, you see driving games and you see shooting games, and very little else. With the driving games sometimes you're driving a car, sometimes a bike, sometimes a truck, or a snowmobile, but they're still damn driving games. And, y'know: been there, down that – sorry, don't want to do it again. Saying that the arcades are being killed off by the home games is tantamount to saying that the movie theatres are being killed off by the VCR and television, which didn't happen. But the arcade business is no longer an interesting experience because there's nothing happening there.
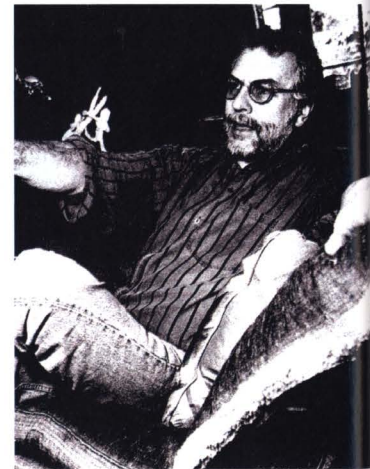
How can it be rescued?
That's actually what I'm doing right now. I believe that games need to be different in public places. That is, a lot of the games that you play at home now require tremendous amounts of concentration, and to have that concentration in a situation where somebody's talking in your left ear, and drinking beer in your right ear, isn't that much fun. So if you try to do home-style games in a bar, it will fail. Or even home-style games in a noisy arcade. It's not as satisfying an experience. One thing that the public places have that the home doesn't have are groups of people who want ways to compete with each other, with their friends, so that games become a social experience. And so that's what I'm doing. I'm building a series of games that create social structures within bars, restaurants and arcades.

And that mean making things simple?
Absolutely. Because what you want to do is to enfranchise the least capable of the group while keeping the most capable of the group, in terms of gameplay, challenged and having fun. And you want to take the dynamic a little bit off the game and on to the socialisation that's going on.

And, as with the Atari of old, presumably there's no violent content.
That is correct. And you do that not for any prudish reasons, it's just that if you have too much violence you lose the female portion of the population. And, in bars or restaurants, if you lose the females, you've lost the males too.

It was almost the Atari Amiga: Jack Tramiel left Commodore and bought the crippled Atari, ploughing money into a rogue project to secure a possible future buyout, but Commodore sneakily snapped it up as its own 16bit computer format

Atari VCS (1977)

Later to be renamed the 2600, Atari's first multiple-cart console launched alongside nine games. The architecture was revised many times, its quaint fake-wood veneer eventually being scrapped
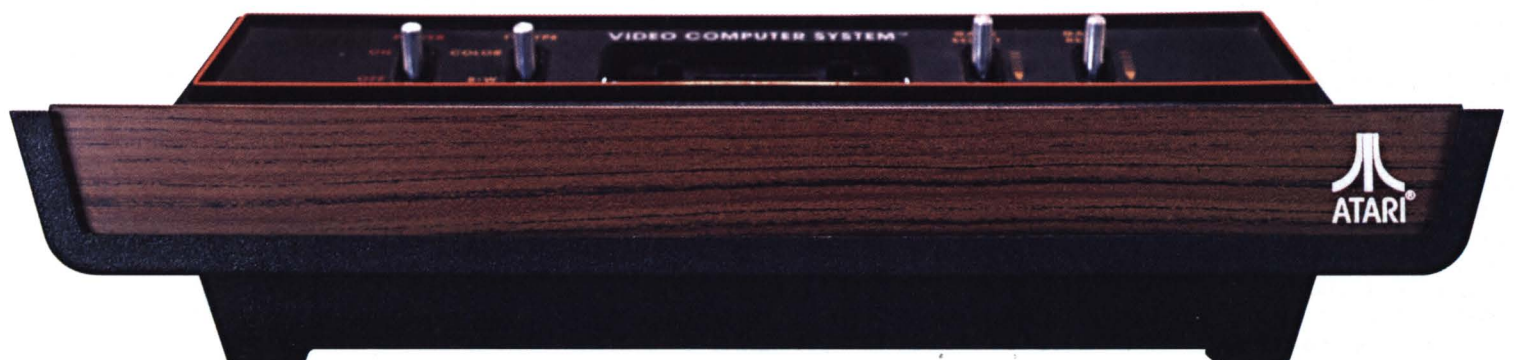
Friends

Reinvented

You know what it's like. You haven't seen them for years, and then they turn up out of the blue, looking different, more grown up, and often more interesting. **Retro** looks at what happens when games are remade

Twenty years ago, remaking or cloning existing works was standard commercial practice for the embryonic videogame industry. Before the emerging trade was truly a global business, before exploiting IP and maintaining the racial purity of lucrative franchises became pillars of the publishing business, appropriating another company's design brief rarely led to a litigious denouement. Knocking off an established coin-op, early console game or title from another computer format, then, was a relatively no-fuss recipe for a retail release. All a coder needed to do was to clone a game to the best of their ability (and the capability of the target format in question) and judiciously adapt a few elements (particularly names). Many were awful. Some were competent. A few, impressively, actually improved or successfully adulterated an original template.

As the videogame industry matured, however, licensing IP became the norm by virtue of legal necessity. When Nintendo locked horns with Rainbow Arts in 1987 – bull versus

snail being an apt analogy – over the latter's shameless *Super Mario Brothers* lift *Great Giana Sisters*, the outcome was inevitable. The excellent *GGS* was withdrawn from sale, its Spectrum version reviewed but unavailable to gamers until the advent of Sinclair emulation. As commentators opined at the time, the most surprising thing was that Rainbow Arts thought that it might get away with it.

Taking it to the public

Due in part to indifference (be it calculated or otherwise) from software houses, the 'unofficial', non-commercial remake – from elementary, often substandard clones to the occasional lovingly crafted and evolved homage – was allowed to became a mainstay of the 16bit public domain community. As mail-order PD libraries were supplanted by the modern Internet, the efforts of backroom coders found a larger (and expanding) audience. With interest in retrogaming buoyed by emulation and the widespread, if frequently illicit availability of old games, low-rent clones have been rendered practically obsolete in recent years. Why play such efforts when you can download the original in a trice?

Modern 'tributes' to classic games must either replicate their subject matter with outstanding accuracy, or offer clever (and complimentary) enhancements in order to gain recognition. One such example is **Richard Jordan**'s outstanding *Klass of '99* – an improved adaptation of Microsphere's fondly recalled *Skool Daze*. "Enjoyable games don't have to be glorious 3D affairs written by huge development teams," Jordan opines. "It's still possible for the bedroom game programmers (or lounge, in this case) to get a little bit of attention."

Herein lies, at least in part, the reason behind the recent proliferation of retro remakes: attention. For an amateur coder, creating an original game involves much effort with little chance of recognition by anything more than a tiny audience. Begin *Game X Redux*, though, and you can immediately acquire an online following of people who fondly recall its inspiration. Remakes have the inestimable benefit of familiarity: former *Skool Daze* graduates, for example, will have little

problem adapting to *Klass of '99*, recalling keyboard commands and gameplay tenets as they go along. Granted, most resurrections of ageing titles begin as labours of love, or technical challenges – but, as an ancillary bonus, they get to clutch the coat-tails of an established brand. 'Preaching to the converted' probably isn't the best description, but it's the first that springs to mind.

Throughout this article **Retro** presents a gallery of some of the most noteworthy remakes currently available or in production. Of varying quality and ambition, it's interesting to compare and contrast them with their original incarnations, which are also featured. As a bonus, there's also an appraisal of the most notable remakes that have appeared on GBA.

A history lesson

While the industry as an entity at best tolerates, and at worst abhors, emulation of old formats and their games, veteran coders are often reported as being flattered by the attention lavished upon their old works. At the very least, they're prepared to turn a blind eye. "I tried to make contact with Dave Reidy from Microsphere, but to no avail," says Jordan. "During the game's development I did hear from a guy at a videogame magazine who had interviewed him. He told me that, off the record, Mr Reidy had no objections to the project. That's all I know."

"The only reason for doing *Skool Daze*," Reidy once told *Sinclair User* magazine, "was [that] I wanted to see lists of all the dates of battles in English history appearing in the hint pages of magazines." On the success of Reidy's attempt to educate the gaming public by stealth, history is silent – but the obvious affection felt for *Skool Daze* and its sequel, *Back to Skool*, abides even now.

Jordan's *Klass of '99* is a pseudo follow-up to Reidy's original, and easily one of the most sophisticated and enjoyable fan remakes released to date. Part of its obvious appeal is Graham Goring's clean, colourful yet eminently authentic graphics; complementing these, Jordan's recreation of *Skool Daze*'s atmosphere and feature list is spot on. The restrained manner in which new teachers and a fresh adventure have been introduced is also eye-catching. All too often, remake coders either interfere too much or too little, but *Klass of '99* achieves a nigh-perfect equilibrium.

"Well, it wasn't really my decision," replies Jordan when **Retro** enquires as to why he chose *Skool Daze*. "I posted a message to the newsgroup comp.sys.sinclair asking the folks there which Speccy game they'd most like to see enhanced for the PC. If I remember correctly, everyone who emailed me mentioned *Skool Daze* somewhere in their wish list."

Given that a full diary from Jordan can be found on the official *Klass* site, there's little point in relating anecdotes from its 11

months in development. When **Retro** asks how happy he is with the final version, Jordan is understandably upbeat. "I'm very proud of the game – it's not very often I actually finish one," he admits. "From a programming point of view there were many challenges along the way, but nothing too difficult because a PC can easily cope with such a simple game. How Microsphere crammed it all into 48K of Spectrum is beyond me."

"Looking back," he continues, "I wish I'd spent just a couple more weeks adding a few nice touches here and there, but after 11 months it was beginning to drag on a little. That aside, it ended up pretty much how I'd hoped it would. The feedback I've received has been excellent, it really makes it all worthwhile. Three years after its release I'm still getting requests for help and ideas for improving the game. I would like to think it's gone part way to encouraging other people to start their own projects."

As a footnote to this particular story, it's worth mentioning that coder James McKay is working on a conversion of *Klass of '99* for the Spectrum 128, and that a GBA port (although stalled at present) is also in the pipeline. Directions to both can be found in the links section, with McKay's diary a must-visit for fans of noble yet insane causes.

Life outside of school

An exceedingly popular game with prospective remake coders is, quite understandably, David Braben and Ian Bell's *Elite*. Not only is it blessed (unlike many formerly lauded titles) with a design that remains appealing to this day, its source code and other such information is freely available for study. The fact that it has appeared on formats far too numerous to mention here means that the few gamers who haven't played it will certainly know of it by reputation.

From the multitude completed, aborted or in progress, two *Elite* remakes are worthy of particular attention. *Elite: The New Kind* is a faithful recreation, based on the BBC original and created by reverse-engineering its code. Author Christian Pinder's only alterations have been modest visual enhancements: primarily replacing the wireframe visuals with filled vectors and elementary 'skinning' of the planets. For the purist, this is most assuredly the best version available.

Arguably more impressive, though, is Derrick Dixon and Gary Dunn's *Maverick*. Having begun its life over two years back with an isometric engine, Dixon returned to the project six months ago, having taught himself OpenGL coding and 3D mathematics especially for the task. *Maverick* in its present-day form is highly attractive – although the caveat 'for a remake' obviously applies – and quite amazingly large. Although *Elite* was its inspiration, it has steadily grown
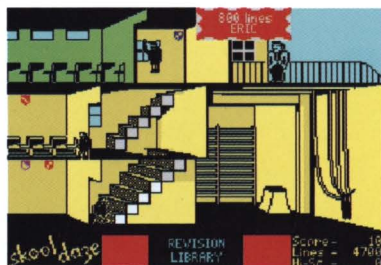
The originality and quirkiness of the original *Skool Daze* made it first choice on fans' update wish lists

Super Mario World DX
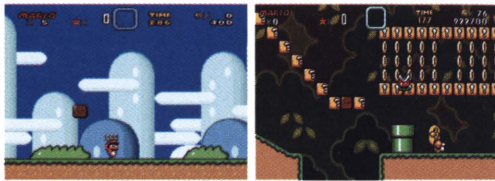
BB Software's *Super Mario World DX* opts for aesthetic authenticity over enhancement, and understandably so. A work-in-progress, it's already a superbly well-observed piece of cloning. Cynics may scoff and suggest emulation instead (or, better still, the original game), but neither can offer BB Software's easy-to-use level editor.

Atic Atac

Unlike the *Sabre Wulf* remake, this revised *Atic Atac* features completely redrawn sprites. Unfortunately, controlling your onscreen charge – be he serf, knight or wizard – is complicated by over-zealous use of inertia. It would be unfair to suggest that this spoils Minionsoft's game, but it could certainly benefit from a little tweaking.

Gradius (Gradius '99)

Gradius '99, a remake of Japanese origin, does not offer any form of visual enhancement, but that's probably for the best. Its spartan approach allows players to pick their way though wave after wave of bullets without the distraction of eye candy. For office-based players, there is also a handy Java version.

Styx
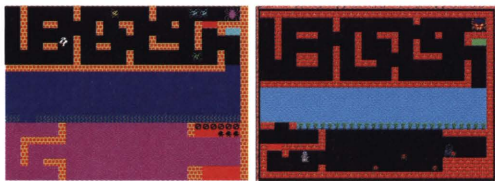
Neil Walker's *Styx* – an update of a relatively little-known Matthew Smith game – is rather hampered by the limited nature of its subject material – it was never one of the Spectrum's best. Devotees of the original will find little to fault, though, and the addition of an approachable level editor is a fine touch.

Fairlight
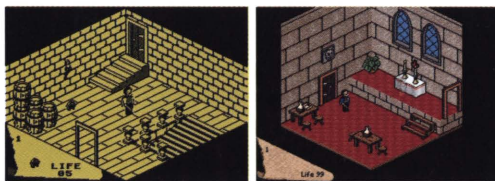
Richard Jordan – creator of the outstanding *Klass of '99* – is currently working on an update of Bo Jangeborg's acclaimed adventure, *Fairlight*. At the time of writing, only a rolling demo exists for download, but what's already been achieved is highly promising, and the prospect of slowdown removal makes this one to watch.

Turrican (Hurrican)

Although its authors are keen to state that the present version of *Hurrican* – a *Turrican* tribute, unsurprisingly – is simply a tech demo, it's moderately slick and eminently playable. With no joypad support as yet, its keyboard-only control system can be awkward, but not prohibitively so.

Chuckie Egg (Chuckie Egg – The New Batch)
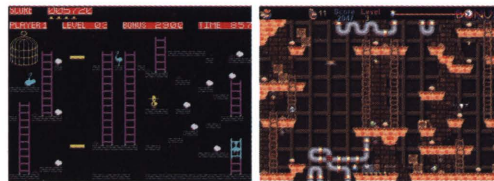
Nigel Alderton's famous *Chuckie Egg* has inspired at least half a dozen modern-day reiterations. **Retro**'s particular favourite, though, is John Blythe's *The New Batch*, a solid, Blitz Basic-powered clone replete with thoughtful touches. This includes – and other backroom coders should take note – a 'music off' control.

Bruce Lee
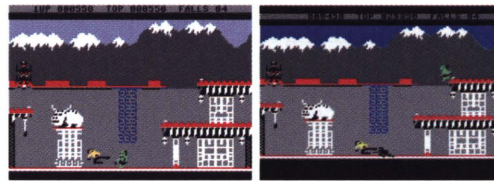
This ostensibly pixel-perfect recreation of 8bit favourite *Bruce Lee* could certainly have benefited from a little aesthetic adulteration. Indeed, its only superiority over an emulated version is a hi-score table, and relative ease of use. As a technical exercise and a nostalgic diversion, however, it cannot be faulted.

Manic Miner
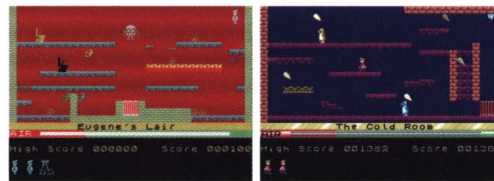
Of the various *Manic Miner* clones, this Andy Noble effort is enduringly popular. In terms of play, it's absolutely spot on – indeed, better, due to a slight (and thoroughly well-judged) increase in game speed. It even has the original title screen, although – and this is a minor gripe – the keyboard doesn't 'play' itself. For shame, Mr Noble.

Harrier Attack

Another pixel-precise clone: this time, as gaming veterans will no doubt have already discerned, of Mike Richardson's famed *Harrier Attack*. The ability to save high scores is fine, but **Retro** hankers for true remake – and the bigger and brighter the explosions, the better. Richardson's originals have lost their one-time lustre, oddly…

Sabre Wulf
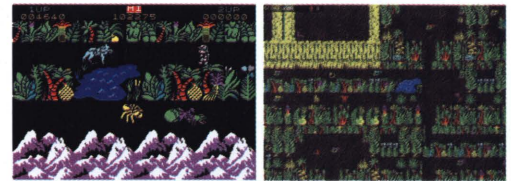
This Sandwell Software version of Ultimate's *Sabre Wulf*, a harsh yet charming maze game, offers a simple, sensible enhancement: scrolling. With the action viewed from a greater height than in the Spectrum original, it's fairly easy to find pieces of the amulet Sabre Man seeks; surviving to finding all four is a different matter entirely.

Chaos (Chaos GBA)
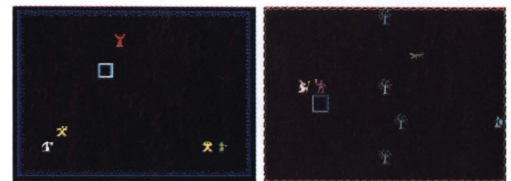
Visual finery be damned. Thoroughly ugly, this maddeningly addictive *Chaos* clone for the GBA (or a suitable emulator) is a true labour of love. It even offers the option to enable or disable bugs present in Julian Gollop's original code. With multiplayer support, it's a must-have for anyone with access to a Flash Advance cartridge.

Maziacs

Before Don Priestley made a name for himself with remarkably large sprites in the likes of *Popeye* and *Trapdoor*, he created *Maziacs* – a simple but absorbing maze game. This excellent remake has two game modes (one revised), a choice of new or original 1983 graphics, and support for user-created tilesets.

Death Chase 3D (Death Chase 2002)

Deathchase 3D was one of the finest Spectrum games – some would argue *the* finest – ever created. Andrew Layden's update is pleasant enough, but somehow lacks the feel of the much-lauded original. **Retro** awaits a truly definitive recreation of Mervyn Estcourt's classic with a considerable degree of impatience.

The Legend Of Zelda
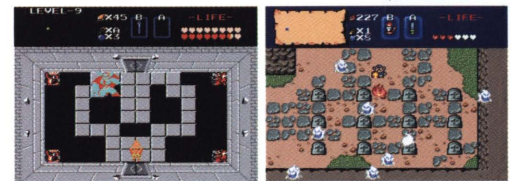
This recreation of *The Legend of Zelda* – the original NES version – is a faithful, versatile piece of coding. With a level editor and support for thirdparty additions – including tilesets – it's an ongoing project that may eventually become more than a clone. A demo already exists featuring the engine using the more attractive graphics of *BS Zelda*.
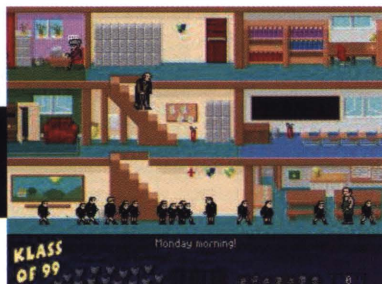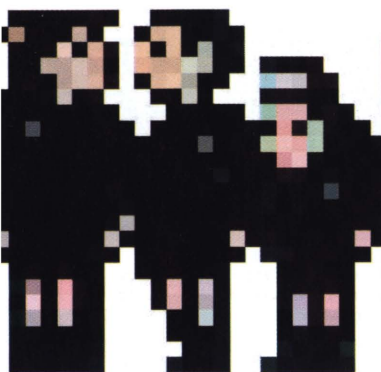
Though clearly hardly a new project, *Klass of '99* nevertheless remains an impressive feat of homebrew coding. The introduction of new characters may have been something of a risk in such a remake, but it all works out fine

beyond the boundaries of its conceptual sire. New features include the addition of orbits for planets, new spacecraft and weaponry, plus a more involved trading system. Better still, it's a work-in-progress, with 17 missions promised in its next update.

Commercial breaks

Even the most advanced remakes, as a rule, lag years behind commercial releases in terms of visual panache and technical sophistication. Cult success and the occasional game magazine news article is the most that many can hope for. The occasional project, though, grows beyond its initial limited vision. One such game is *Vega Strike*, an open-source, space-based shoot 'em up/trading game. Originally designed as a *Wing Commander* clone, it has grown to a point where it is merely influenced by Origin's epic, with a dash of *Elite* for taste. With a new beta having been released at the time of writing, its development team has announced a new direction for it: multiplayer functionality. From the smallest seeds…

One point that has **Retro** noted is the relative scarcity of truly collaborative projects. Many games are entirely one-man affairs; numerous others involve a single coder, with a modicum of visual and audio assistance as and when required. Given the number of people working, in teams, on maps and mods for major PC game engines, it's surprising that recreating classics remains mostly a solo passion. **Retro** began this article by, foremost, looking for adaptations – projects that expand rather than merely recreate a given title. Such games exist, but are relatively rare.

Still, with an enormous back catalogue to cover, there is little danger that the retro remake community will run out of steam. Indeed, with much-visited sites like Remakes.org assisting the authors by popularising their work, and Retrospec's sterling output and support, it's fair to predict that games of *KO99*'s quality will soon appear with greater regularity. In a sense, there's a certain tangible irony to the growth of the remake scene: many of today's professional developers began their careers by making 8- and 16bit titles. How many game industry careers will be launched by recreations of those very same games?
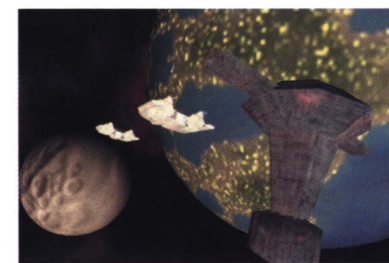
LINKS

Retro-Remakes
www.remakes.org

The excellent Retrospec
retrospec.sgn.net

Klass of '99
retrospec.sgn.net/users/rjordan/klass/index.htm

Gridrunner ++
www.llamasoft.co.uk

Maverick – Elite remake/tribute
maverick.dodgyposse.com/gallery.php

Vega Strike
vegastrike.sourceforge.net/

Elite: The New Kind
www.cjpinder.clara.co.uk/elite.html

Super Mario World DX
www.bbsoftware.net

Hurrican (Turrican)
www.poke53280.de/

Sabre Wulf
www.dexfx.pwp.blueyonder.co.uk/ss/

Atic Atac
minionsoft.co.uk/home.htm

Chuckie Egg – The New Batch
www.dreamcaster.f9.co.uk

Chaos GBA
www.quirky.remakes.org/

Gradius '99
www.ht-net21.ne.jp/~sider/DirectX/

Bruce Lee
www.planetflibble.com/blitz/

Maziacs PC
www.peejays.remakes.org

Styx
retrospec.sgn.net/users/nwalker/styx/index.html

Manic Miner
retrospec.sgn.net/games.php?gamelink=11

Deathchase 2002
www.gansteeth.freeserve.co.uk/dchase.htm

Fairlight
www.maderic.co.uk/fairlight/main.php

Harrier Attack
www.alchemist.remakes.org/

Classic Legend of Zelda
www.zeldaclassic.com/

Jet Set Willy
retrospec.sgn.net/games.php?gamelink=8

Mercenary
membres.lycos.fr/vesta/mercframes.htm

Cybernoid
www.sunteamsoftware.co.uk/mainframe.html

Cybernoid 2
retrospec.sgn.net/games.php?gamelink=42

Freedroid – Paradroid remake
freedroid.sourceforge.net/

G-Type
www.voo.to/cnc/

F-Zero
www.div-arena.com/gwshow.phtml?val=3&table=remakes

Sentry – Sentinel remake for Windows
eicart.free.fr/sentry/

M.U.L.E. remakes
www.ee.oulu.fi/%7Etaur/
www.gilligames.com/Space_Horse/TheGame.asp

Thrust Deluxe
members.home.nl/wdw/thrust.html

Ultima I
www.peroxide.dk/ultima/

MM21XX (Mega Man)
www.stroutsink.com/mm21xx/downloads.htm

Way Of The Exploding Fist
ses.mgbr.net/

Deadly Weaponz (Stunt Car Racer)
www.sseccia.com/html/fr_main_51.htm

Jumping Jack
retrospec.sgn.net/users/nwalker/jack/index.html

Blazing Trails (Trailblazer)
www.allan.bentham.btinternet.co.uk/blazingtrails.htm

Cookie
www.nelefa.org/cookie/

Racing Destruction Set
www.planetflibble.com/rds/screens.php?id=41&u=1

Quazatron
www.rebelstar.co.uk/quazatron.htm

More Paradroid
paradroid.sourceforge.net/index.html#what_is_it

Rick Dangerous GBA
spoutnick.free.fr/rda/index.html

Kung-Fu Master Returns
www.alexandremoreira.hpg.ig.com.br/games/kfmr/english.htm

Starting out as a *Wing Commander*-inspired title, *Vega Strike* is a hugely ambitious piece of homebrew

The Fairchild Channel F (1976) was the first home console to use programmed game cartridges featuring ROM chips. (While the Odyssey arguably had cartridges, all they really did was act as units to complete the circuitry)
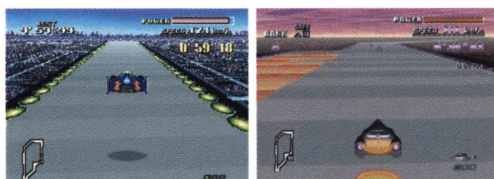
Jet Set Willy

Prolific retro remake coder **Andy Noble** describes his *Jet Set Willy* project as "… the version of the game that would have appeared in 1984 if such things as 256 colour displays were about." A colourful, professional piece of work, *JSW PC* also has one very attractive addition: a load and save function.

Mercenary (MDDClone)

MDDClone is a work-in-progress, all-in-one remake of Paul Woakes' classic *Mercenary* series. Currently, it offers perfect versions of *Escape From Targ* and *The Second City* in a compact window that lends itself to office hours abuse; *Damocles* and *The Dion Crisis* will be included in future releases.

Cybernoid

Michael Milne and Paul Weller's *Cybernoid* is a Blitz Basic-powered recreation of Raffaele Cecco's Spectrum hit. While remaining true to the original's look and feel, it does have one notable addition: an extras menu, in which new features can be unlocked by finding a new collectable during play.

Cybernoid 2

A playable but tame reworking of its forebear, *Cybernoid 2* is rather flattered by the existence of this competent, if marginally flawed remake. Its enhanced graphics are pleasant enough, but its range of explosions can frustrate: behind many pyrotechnic effects lurks a hidden projectile.

Paradroid (Freedroid)

For **Retro**-reading Linux users, *Freedroid* is a remake of Andrew Braybrook's excellent *Paradroid*. With enhanced graphics and a level editor, it's well worth investigating. Windows users keen to revisit Braybrook's timeless design brief should see the forthcoming *Quazatron* remakes, links for which are included in this feature.

R-Type (G-Type)

More an accomplished tribute than a remake per se, *G-Type* is a shoot 'em up that features the ship, weapons systems and selected gameplay elements of Irem's seminal *R-Type*. It has five levels (two more than many people reached in *R-Type*, it could be said), and is well worth the effort of navigating its Japanese-only homepage.
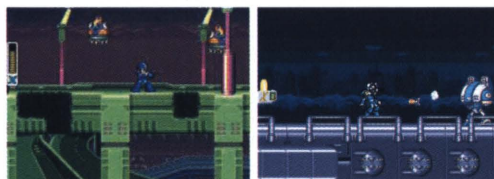
F-Zero

Paul Hamilton's *F-Zero* recently achieved second place in a recent DIV programming language remake competition. It's a surprise it didn't win: the programmers has obviously spent enormous amounts of time honing its control mechanism, which is just as flexible yet unforgiving as the SNES original.

The Sentinel (Sentry)

Once a technical opus, Geoff Crammond's *The Sentinel* is reborn as a desktop toy in the form of *Sentry*. Its feature-packed design and ease of use are notable; this is no mere common-or-garden clone. That its textures are scruffy is but a temporary irritant; locked in a war of wits with the formerly titular guardian, it's as absorbing as ever.

Mule (Space Horse)

Often namechecked by developers as both inspiration and a former favourite, there are a few *M.U.L.E.* remakes to be found. The best version is *Space Horse* (pictured), while a cheaper option is the alpha release of *Mule*. Surely much more could still be done with Ozark's original design, though. Any takers?
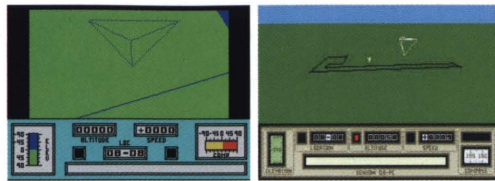
Thrust (Thrust Deluxe)

With six extra levels, the addition of pilots to rescue, a hi-res mode and even a Rob Hubbard title tune remix, *Thrust Deluxe* is an excellent remake of a remake (the original *Thrust* owing Atari's *Gravitar* a significant debt of gratitude). It may have a few irritating bugs, but *Deluxe* is a very fine update: it even has a demo mode.

Ultima

Ultima I is a remake of the first in Richard Garriot's long-running RPG series. Although at an early stage – a tech demo lets you explore a limited area – the use of a full 3D engine is highly ambitious. Given the slow pace of development so far, however, it's fair to speculate that the project will lose its impetus sooner rather than later.

Carrier Command (Hostile Waters)

Occasionally, largely forgotten game designs resurface in commercial releases. Rage's *Hostile Waters* – which apparently, and sadly, sank at retail – is regarded by many as a modern-day remake of Rainbird's innovative *Carrier Command* in all but name. Look around and you should be able to pick it up at a bargain price.

Mega Man X (Mega Man 21XX)

MM21XX is a substantial, occasionally stylish PC recreation/ adaptation of Capcom's *Mega Man X*. It's not quite finished, but the dedication of author Arne Strout is praiseworthy: it has characters to unlock (with differing abilities) and features assailants from various *MM* games, along with Strout's own creations.

Way of the Exploding Fist

While this resurrection of Gregg Barnett's *Way of the Exploding* Fist is far from finished (it currently lacks a oneplayer mode and scoring routines), it does allow for twoplayer matches, with a pair of combatants hunched over a single keyboard. This isn't especially practical, of course, so expect joypad support in a future release.

Stunt Car Racer (Deadly Weaponz)

It's perhaps cruel to say it of a homegrown title, but Sylvain Seccia's *Deadly Weaponz* is thoroughly unappealing to the eye. A few minutes of play, however, reveals it to be a fine homage to *Stunt Car Racer*. It partially captures the feel of Geoff Crammond's opus, even if it lacks some of the more awe-inspiring jumps and tactical subtleties.

Mr Remake: Jeff Minter

Having recently coded and launched *Gridrunner ++*, the legendary **Jeff Minter** is no stranger to the remake scene. His homage to a former hit differs from most of the games mentioned on previous pages in that it is a commercial release (it costs an eminently reasonable £5, with orders via the Llamasoft site) and, additionally, it's exceedingly rare to find an author returning to a game created two decades previously. **Retro** asks him why.

**What was the original inspiration behind Gridrunner?**
The inspiration for the original was obviously mainly *Centipede*. Around then everyone and his dog was banging out *Centipede* clones, though, and I wanted to do something a little different, a bit faster and more hard-edged than *Centipede*, which was a bit cute and fluffy. It still had to fit in 3.5K, though, so I couldn't go mad adding stuff. I made it faster, made the pods that eventually turned into bombs, and introduced the XY Zapper, whose regular destructive pulse became one of the defining elements of *Gridrunner*. I knew I wanted the game to be played on a grid of some sort, and I was down the Tube at about the time 'Blade Runner' came out, saw a poster for it… and decided to call the game *Gridrunner*.

Why did you choose to resurrect it?
Well, I'd just done a couple of puzzley kind of games for the PPC, and I felt the urge to do something shooty. It's 20 years since the founding of Llamasoft, 20 years since the original *Gridrunner*, and I thought it would be nice to do a modern version, and that there was scope to put in some good gameplay while retaining some kind of essence of the original game.

How long did it take you to produce the remake?
It took about three or four months to make *GR++*. A lot of the last couple of months of that was just making levels and tweaking the gameplay. The code is actually pretty simple – it's only a sprite-based shooter, after all.
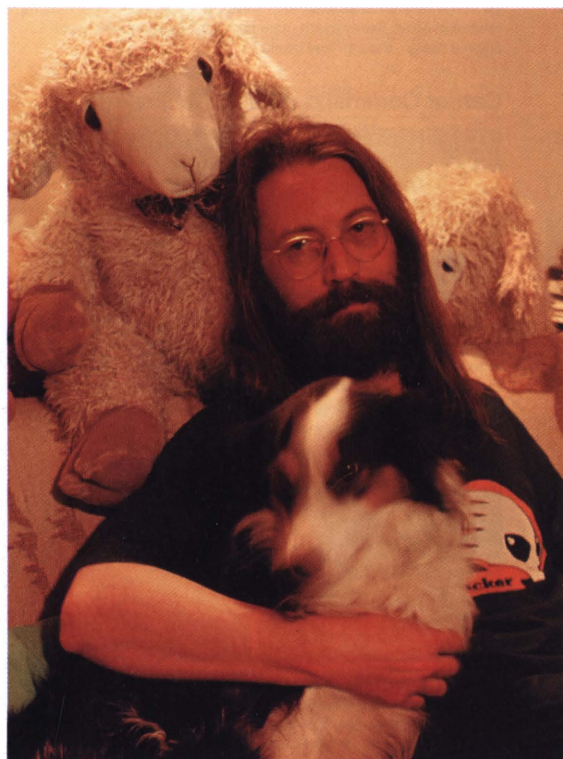
What elements of the update turned out best?
I like the way it's immediately accessible: the interface is good (you can play just gently moving the mouse; firing is auto, so you don't hurt yourself playing it; mouse control is responsive) and there are some neat touches in there like the Sheepie Save. Basically it just plays well, has a nice hook, and builds in intensity nicely. In a simple game like this it's all about feel and gameplay.

What has player feedback been like?
Thus far feedback has been good. Inevitably there are a few people who think it's too simple, who only get off on mega 3D epics and such, but most people who like a good shooter really seem to like it. I knew it was going to be a decent game when members of the Llamasoft board started developing serious addictions to a really simple no-graphics-to-speak-of three-level demo I released while I was working on it. I've even had people who never play shooty games get into *GR++*, and that's always an encouraging thing – if you see people who don't normally like your game style getting drawn in regardless.

Do you plan to continue working on remakes?
Well, I'm busy on something else right now, but I may yet have the odd tinker at weekends, being as I have the *LVM* [*Llamasoft Virtual Machine*] all set up and all. I wouldn't mind doing an updated version of *Llamatron*.
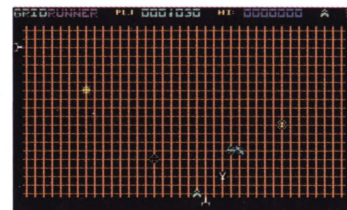
Retro remakes are becoming increasingly popular. What do you think about that?
I think people enjoy the simple but exquisitely refined gameplay of the old classics, and if a remake is done properly, marrying that lovely gameplay to modern graphics and audio can be a very effective thing. Too many of them don't work, though, because they go too far with the new stuff and manage to lose the original feel of the gameplay, which kinda defeats the object of doing a remake. One has to keep the essence, something I tried to do in my *Tempest* remakes. One has to love and respect the original game, and add stuff thoughtfully, rather than just shovelling loads of new stuff in willy-nilly.

The original *Gridrunner* (top) played out its shooting excesses across several 8bit formats. Its sequel (above) is a Pocket PC release. Due to its nature, it's not one of the most sedate experiences you could choose for a train journey

"Too many remakes don't work because they go too far with the new stuff and manage to lose the original feel of the gameplay, which kinda defeats the object"

Are there any specific retro remakes out there that have caught your eye? Have any made you feel particularly impressed or disappointed?
As I said, successful remakes are few and far between, and there haven't been a lot so far that I'd prefer to play rather than just firing up MAME and having the original. Some of the ones I've anticipated the most have been disappointing. With *Virus* they tried to simplify the control method and in doing so lost the purity and beauty of the original controls. And *Sinistar Unleashed* was too far from being *Sinistar* to really satisfy. I do like the *Pac-Man* update on the GBA *Pac-Man Collection* – I was never a massive fan of *Pac-Man* back in the day (I was more of a shooty man) but I find myself playing that little GBA version quite a bit (now I have an AfterBurner kit and can actually see the bloody screen). They've actually improved the feel of the game, it controls really well, and the gameplay is recognisably *Pac-Man*, with nice new mazes and graphics, and a few deft extra touches. It's only a little game, but it's an example of an update done nicely. Now, can someone please do a version of the original *Virus* on the GBA? I know getting the controls right would take a bit of work, but I'm sure it could be done. Ooh, *Virus* to go… Mmm.

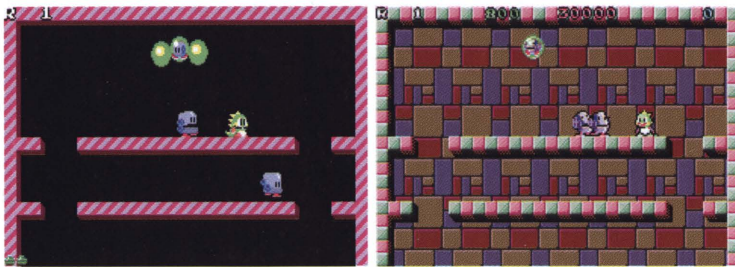

New York, 1940s: parts and machinery from pintables were donated to the war effort when mechanised games were outlawed following links to organised crime. The city's mayor gladly helped dismantle machines and throw them into the sea

Bubble Bobble Old And New

Publisher: **Empire** Developer: **Taito/Media Kite**

Taito's rerelease wears its heart on its titular sleeve, hoping to stand astride the generational gap by offering both classic and updated versions of *Bubble Bobble*. These two modes succeed and fail respectively. When a port is done well it shines, and the graphics of the original game are as sprightly as they ever were, at the same time highlighting the ugly garish mess that is the 'Nu *Bubble Bobble*: like watching a 'Michael Jackson: Now and Then' documentary, but without any decent music.

SFII Turbo Revival/SF Alpha 3

Publisher: **UbiSoft/Capcom** Developer: **In-house/Crawfish**
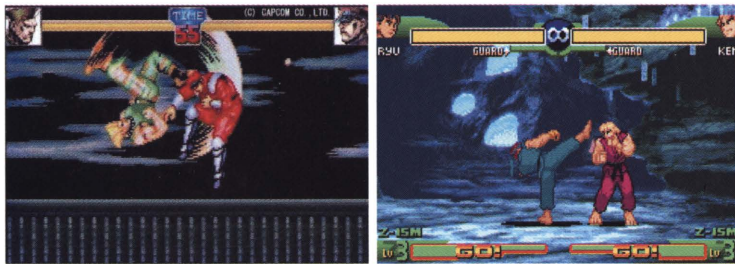
When the gaming press decided that the GBA offered 'twice' the power of the SNES, uninspired types pegged many of the 16bit platform's success stories for new material and, *Mario* aside, *Street Fighter* was an obvious choice. *Turbo II Revival* is a mess, playing more like demo code than anything else, with bugs all over. *Alpha 3*, on the other hand, is perfection. Beautifully rebuilt and perfected (the GBA's lack of six proper buttons does not hinder the action), it's a triumph of balanced play and thrills.

Game & Watch Gallery Advance

Publisher: **Nintendo** Developer: **In-house**

Graphically improved updates are odd things, often appearing simply a case of brand over brain, and in this instance the treatment just doesn't suit the precise nature of the original G&W series. Visual updates seem to have got the better of Nintendo (the 'classic' versions have garish backgrounds) but the originals presented in this gallery are as good a replication of the original LCD games as you could expect, with audio cues surprisingly capable of evoking the handheld hardware of old.

Super Ghouls 'n' Ghosts

Publisher: **Capcom** Developer: **In-house**

It's difficult. Very difficult. In fact, Capcom's Arthurian spookfest was always a tricky customer, and the teeth-grindingly frustrating pixel-perfect jumps are replicated here sprite for sprite. Little has changed since the early '90s and the gaudy-gothic design and pulpy B-movie music from the platforming legend have made a faithful conversion. Perhaps these superficial bonuses are in fact to its detriment, because, while a save function is a welcome addition for gaming on the move, the harshly dark level design is not.

Konami Arcade/Atari Anniversary

Publisher: **Konami/Infogrames** Developer: **In-house**

Using the handheld to run classics of old is a staple of the homebrew dev scene, and not something you expect from two of gaming's big names. But press on with it they have. The Atari pack contains classics that were both loved and lauded, but one game is conspicuously absent: surely a twoplayer linked *Pong* was too good an opportunity to miss? *Scramble* and *Yie Ar Kung Fu* age badly on the Konami pack, but face is saved with *Gyruss*, *Rush'n Attack* (aka *Green Beret*) and the enduring *Time Pilot*.

Sonic Advance

Publisher: **Sega** Developer: **In-house**
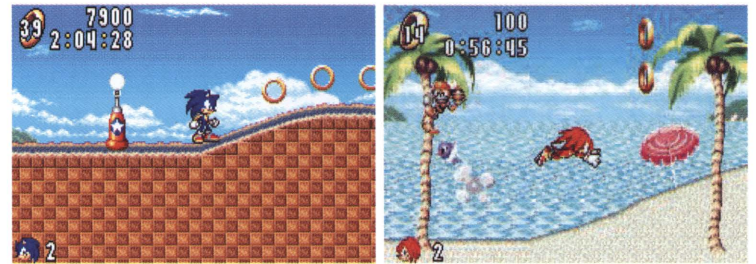
Designed and marketed as the antithesis of *Mario*, 1991's *Sonic The Hedgehog* was a triumph of tuned hardware, slick speed, and smart level design. It's oddly patronising, then, that Sonic's debut on Nintendo hardware is clunky, bogged down by a collect-'em-up subplot, and cheapened by gimmicky snowboarding bonus levels. *Sonic Advance* likes to imply that its levels are vast, but you'll soon discover that the promise doesn't actually stand up. Go for the *Sega Smash Pack* instead.

D&D: Eye Of The Beholder

Publisher: **Infogrames** Developer: **Pronto Games**
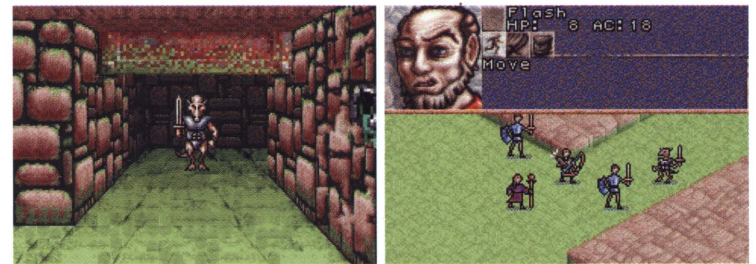
Old-school RPGs are never going to translate to handheld exactly – without a mouse or keyboard something has to give – and thankfully for the update of TSR's claustrophobic classic it was the combat system. The new turn-based battle format is *Advance Wars*-esque, and, although the immediacy of the original is lost, this traditional slant helps retain its depth. It can seem tedious at times, but the new *Eye of the Beholder* nevertheless manages to cast that trusty black magic.

Metroid Fusion

Publisher: **Nintendo** Developer: **In-house**
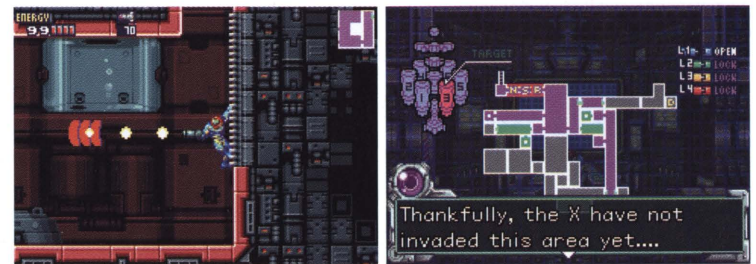
The *Metroid* series has always been one of subtle extravagance, from the revelation that Samus was female through to the huge box of the PAL SNES version. The GBA version keeps up the tradition, and is as colourful and atmospheric as the home console iterations, with that familiar jigsaw-puzzle design ethic that always leaves just enough breadcrumbs to lead the player on. As a continuation of the series, it is indicative of a deliberate attempt to keep a past alive that other developers are often too quick to forget.

The design for 1982's Vectrex console arose solely from the fact that designer Jay Smith had to find a way to use up a supply of surplus vector monitors

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Super Mario Advance 2: SMW

Publisher: **Nintendo** Developer: **In-house**
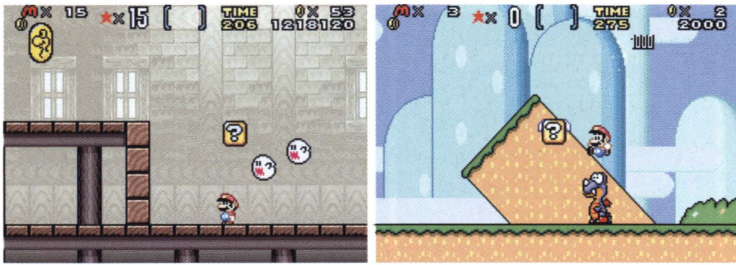
Still hailed by many as the greatest game ever some 12 years after its original release, and with good reason. This pocket-sized version may have drawn unjust criticism for being slightly dumbed down in comparison to its SNES forefather, but it remains 2D platform gaming at its very best. Seeing Mario fall to his death for the 100th time in a row will infuriate, but this is a game that demands to be beaten, refusing to let go until every last secret is unravelled.

Advance Wars

Publisher: **Nintendo** Developer: **In-house**

Unbeknownst to some, this GBA title is an update of the long-running *Wars* series that began on the NES, but that until now has never seen the light outside of Japan. A turn-based strategy game in its purest form, *Advance Wars* is not an experience that will instantly appeal to all tastes. This is a shame, as for those prepared to put the time into mastering its finer points and scaling the admittedly steep learning curve it remains perhaps the most compelling reason to own a Game Boy Advance.

Defender

Publisher: **Midway** Developer: **7 Studio**
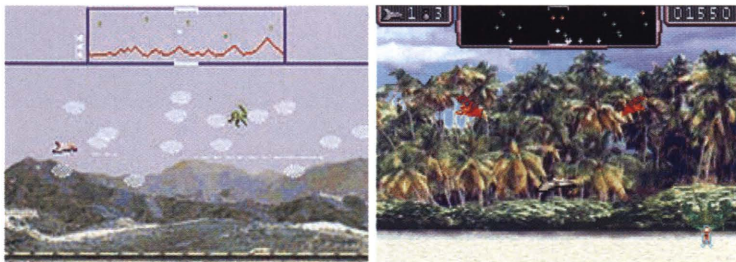
Midway's latest recycling of one of its best-known franchises is a big disappointment. While a full 3D reworking will shortly be arriving on 128bit consoles, GBA owners have to make do with this patchy makeover of the original game. A selection of new ships and weaponry combined with some gaudy backdrops do little to truly enhance the value of the underlying gameplay mechanics. Those looking for something more pure will find it in the original version which is also added as an option.

Defender Of The Crown

Publisher: **Blackstar** Developer: **Cinemaware**

Cinemaware's *Defender Of The Crown* was a revelation when it first arrived in 1986, incorporating tight strategic elements with daring swordplay and stirring tournament set pieces. Its popularity ensured its appearance on a huge range of formats in the following years and now it finally makes its debut on the GBA. It arrives almost unchanged from the Amiga original, with simplistic gameplay (by today's standards) feeling perfectly suited to a new generation of wannabe empire-builders.

SMA3: Yoshi's Island

Publisher: **Nintendo** Developer: **In-house**
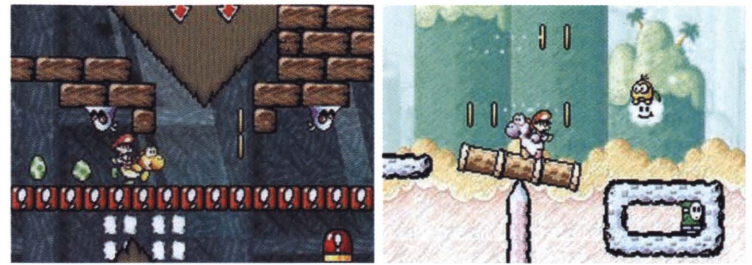
Unfairly tagged with a 'Super Mario World 2' subtitle on its original SNES release in 1995, despite being a very different game, *Yoshi's Island* always had a lot to live up to. The platforms remain, but gone are the time limits, power ups and non-linear level progression in favour of a more leisurely yet often more challenging romp through Yoshi's domain. This arrived a little too late in the SNES's lifetime for some to enjoy it, making it one of the most welcome GBA reinterpretations to date.

Mario Kart Super Circuit

Publisher: **Nintendo** Developer: **In-house**

Another SNES hit makes it to the Game Boy Advance, but refreshingly *Super Circuit* is an original game rather than a straight conversion (although the SNES tracks are present as unlockables). Taking the best elements from the series' previous two outings – notably the impeccable 16bit handling model and improved power ups from the 64bit iteration – this is a worthwhile update. Even when you finally nail the oneplayer game, a GBA link cable and some willing opponents will ensure priceless multiplayer longevity.

Manic Miner

Publisher: **Big Ben Interactive** Developer: **Jester Interactive**

Nostalgia has to be a key word in any appraisal of Jester's 21st century update of the 8bit platform-jumping favourite. It may have been a huge success in the '80s, but on playing this version it can be difficult to appreciate. Jester likes to call this a 'reinvention' of the original game but, as with many lazy GBA updates, for 'reinvention' read 'increased colour palette and stereo sound'. Weak control and dubious collision detection painstakingly conspire to tarnish all those happy memories.

Broken Sword: Shadow Of The Templars

Publisher: **Bam!** Developer: **Revolution**
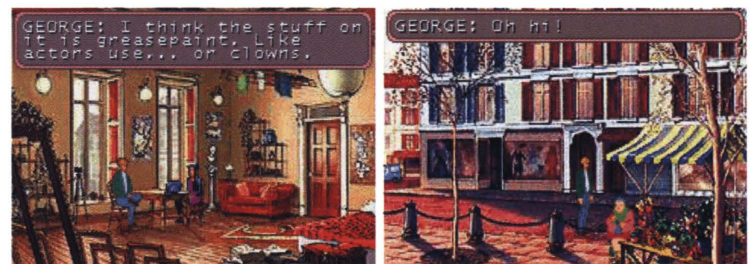
Mauled by critics shortly after release for some unfortunate bugs that in some cases could render the game impossible to complete, Revolution's handheld reworking of its PC and PS adventure is otherwise a brilliant example of how a conversion of this kind should be handled. The point-and-click interface of the original is faultlessly transposed to the GBA's D-pad, while the story and dialogue (some cringeworthy lines excepted) are as entertaining and engrossing as ever. Read up on the bugs first and then enjoy.

Pokémon and e-cards are not Nintendo's first foray into card games: the company began life in 1889 as a manufacturer of Japanese 'hanafuda' cards, only deciding to branch out into other entertainment in 1963

Speedball 2: Brutal Deluxe

Publisher: **Wanadoo** Developer: **Crawfish**

Almost 12 years of gaming history separate The Bitmap Brothers' legendary future-sport title from its GBA incarnation, and upon initial inspection it looks like little has changed, although Dan Malone's distinctive artwork is marred by excessive colour and a more constrained in-game view. This latter point, in fact, has an enormous impact on gameplay: with so much high-speed action going on all around you, the windowing creates a new element of confusion, which ultimately turns to frustration.

Castlevania: COTM/HOD

Publisher: **Konami** Developer: **In-house**
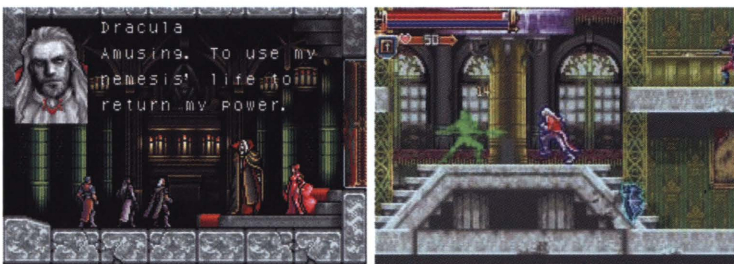
The number and variety of titles that comprise Konami's *Castlevania* franchise is testament to the allure of the series. Characterised by a gothic blend of sumptuous visuals, platforming excellence and stylistic RPG-lite, they epitomise slick 2D videogaming, and the GBA instalments are fine additions. The recent *Harmony Of Dissonance* evokes powerful *Symphony Of The Night* memories, and addresses the dark palette of *Circle Of The Moon*. Both bring a touch of sprawling, scrolling class to Nintendo's handheld.

Super Dodge Ball Advance

Publisher: **UbiSoft** Developer: **Atlus**
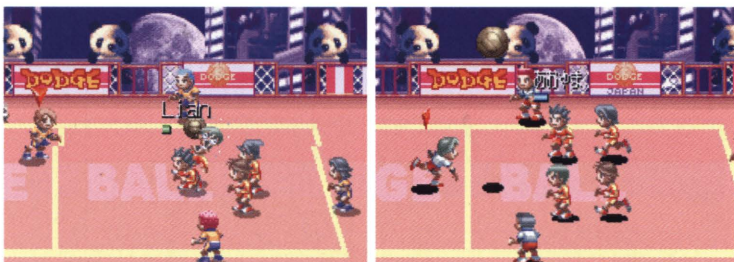
A product of the Japanese penchant for both schoolyard competition and Americana, *Super Dodge Ball Advance* has a long history. A remodelled remake of Technos Japan Corp's *Kunio no Nekketsu Toukyuu Densetsu* for the Neo-Geo, it loses the *Street Fighter* stylings and pairs trademark Atlus sprites with an addictive sports mechanic, based on the arcane high-school gymnasium game. A world tour and individual player statistics complete a title that is attractive, enjoyable, and perfectly at home on the GBA.

Tactics Ogre: Knights Of Lodis

Publisher: **Atlus** Developer: **In-house**

If any game screamed for life on a handheld, it was Quest's *Tactics Ogre*. *Knights of Lodis* follows a side story, but essentially duplicates the stat-heavy strategy-RPG gameplay that embodies the *Ogre Battle* series. The sprites fall short of SNES standard, and both enemy AI and the strategic possibilities open to the player seem similarly slimmed for the GBA, but a mid-battle save option and absorbingly epic showdowns ensure days of battery replacement and eye strain for fans of the genre.

Final Fight One

Publisher: **Capcom** Developer: **In-house**

Teased from their original 1989 arcade form via the SNES's two distinct incarnations, *Final Fight One*'s three selectable characters punch and kick through Metro City in familiar vigilante style. By retaining the mix of huge, if slightly stilted sprites and the unabated side-scrolling fighting that inspired a generation of imitators, Capcom's old master continues to shine on the Game Boy Advance, making this an ideal title to play when circumstances dictate a less delicate approach to combat than is required in *SF Alpha 3*.

Doom/Doom II

Publisher: **Activision** Developer: **Id/Torus**
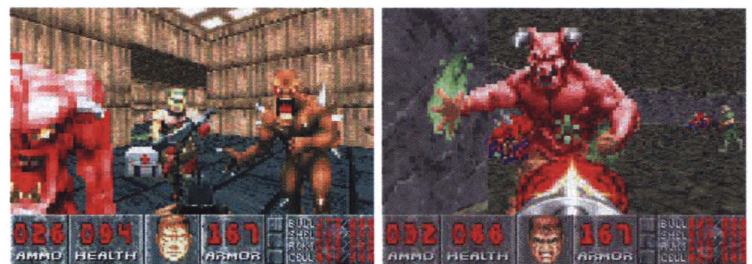
In concentrating on whether it could be done rather than why, the essence of *Doom* has perhaps been lost. Like Jurassic Park's unruly T-Rex, the seminal FPS doesn't conform to the role of modern-day sideshow attraction with any grace; what absorbed before now merely amuses; what once immersed and terrified now only raises a passing technical interest. The restrictions of the GBA cage too much, and despite strong audio and well-worked controls, the *Doom* series now fails to wow jaded crowds.

Rockman & Forte

Publisher: **Capcom** Developer: **In-house**

Aka *Mega Man & Bass*, a port of the 1998 SNES game, unreleased outside of Japan, but praised as the last and greatest 16bit *Mega Man* title before the descent into the *X* iterations. With Capcom's series now numbering at least 17 titles, the *Mega Man* plotline boasts numerous subplots and twists: *Mega Man & Bass* sees the blue robot hero fighting alongside former enemy Bass in polished side-scrolling style. More institution than videogame, *Mega Man & Bass* is a true slice of history in your hand.

Pitfall: The Mayan Adventure

Publisher: **Activision** Developer: **Pipe Dream**

Perhaps trading on name alone, this SNES port retains the flailing animation and busy backgrounds of the 16bit gilded lily. That an internet Shockwave version of David Crane's original Atari 2600 game provides more amusement highlights the superfluousness of *Pitfall: The Mayan Adventure*, and, by extension, this GBA version. That it makes an old-school classic feel like a cheap licensed title is reason enough to leave it well alone.

GOLD

BRITISH COMPUTER GAMES RULED THE WAVES IN THE '80s. UNTIL, THAT IS, THE AMERICANS WADED IN WITH THEIR OWN BOMBASTIC BRAND OF ENTERTAINMENT. **RETRO** GOES IN SEARCH OF US GOLD

RUSH
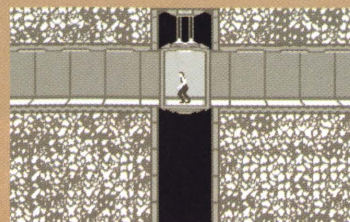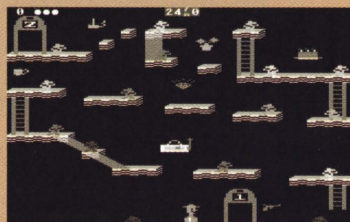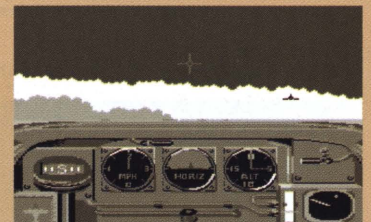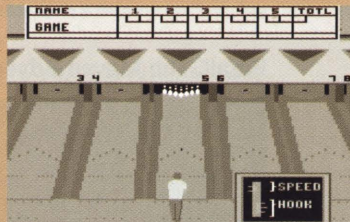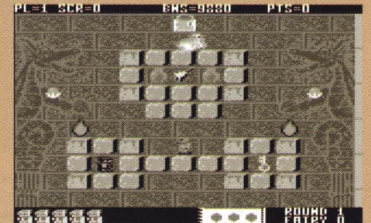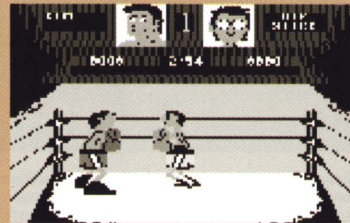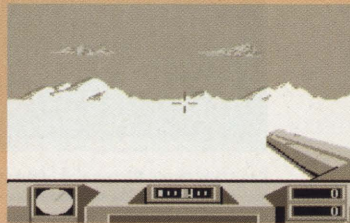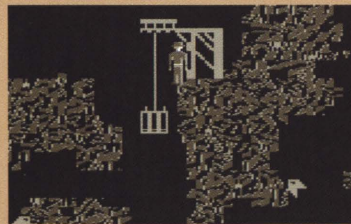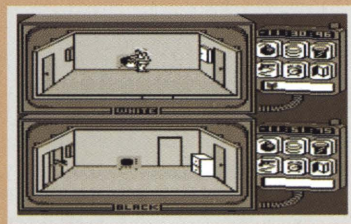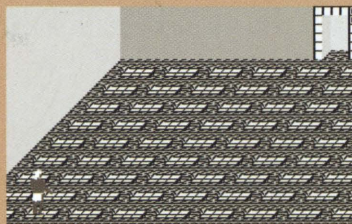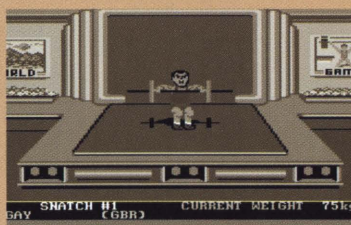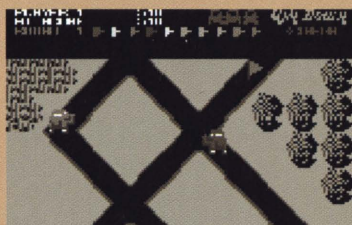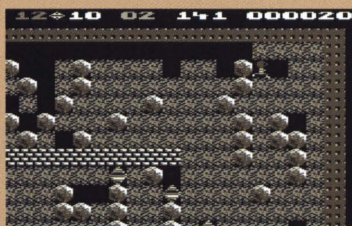
B ack in issue 92 **Edge** looked at some indigenous gaming greats of the past; the Crowthers, Minters and Braybrooks; coders from a fondly remembered era when slapping your name on the box meant the product was truly all your own work, and publishers bent over backwards to encourage undisciplined genius. The early '80s was a time of unprecedented growth, productivity and optimism, but also one where programmers made the rules simply because software was in such short supply that rules had yet to be formulated. Naturally, this state of affairs was not to last. By 1985 – the year computer magazines like *Crash* and *Zzap!64* began to polarise opinions rather than merely reflect them – it was virtually all over. In the words of Philip Larkin, never such innocence again.

In today's market – a seamless mix of European, Far Eastern and American influences, where a quality title will usually find its way across the globe in up to six different formats – it's hard to recall just how fragmented and insular the games industry was way back when. From the UK's perspective, Britsoft ruled the world, safe in its

hermetically sealed bubble and boasting a generation of self-taught boy wonders who could squeeze just about anything from a ZX Spectrum and still have change for a minor miracle on the BBC Micro. In reality, such complacency was often based on ignorance of what was going on elsewhere and convenient amnesia over the Japanese inspiration that lay behind so many early Spectrum's titles. But everything changed in 1983 when a forgotten superpower began to flex its muscles for the first time since the Atari VCS's heyday. Appropriately enough, the invasion began with a game called *Beach Head*.

The second battle of Britain

In 1982, **Bruce Carver** was working for a consulting engineering company in Salt Lake City. He persuaded his wife to let him spend $800 on a C64, promising faithfully to pay for it by selling software he'd create. He came up with a graphics utility called *Spritemaster* which the family sold from the basement of their house.

"We had good success because there was

Born in the USA: *Ace Of Aces* (top), Carver's mega-hit *Beach Head* (above), Crane's groundbreaking *Little Computer People* (right), and *Fight Night* (below right)

"THERE WAS NOTHING LIKE *BEACH HEAD* FROM THE UK. I TOLD ONE PUBLISHER HE MAY AS WELL SCRAP ALL HIS PRODUCTS"

little software of any kind available for the C64 at that time," Carver remembers. "Commodore was famous for introducing hardware without significant software to support it. But it gave us a great opportunity to get our foot in the door. We started our company for less than $25,000."

Carver formed Access Software in the same year, although he still kept up a full-time engineering job. *Neutral Zone*, the company's first game, sold modestly. Chris Jones then joined Access, and, after a mere three months of intensive work, the pair came up with the title that would secure their place in gaming

history. Unknown to them, and largely down to the actions of others, it would also change the UK game industry.

Beach Head was not only louder and brasher than most home-grown product of the time, it came packing its own state-of-the-art hardware. The Commodore 64 was a classic piece of grunty Americana, proud to boast it had better sound, colour and memory than any of its rivals and able to prove it with the kind of killer applications simply impossible on the ZX Spectrum. And while it was something of a culture shock to realise British might not be best after all, it also provided a significant business opportunity for anyone brave enough to fly a different flag. The first to take up that challenge was **Geoff Brown**, head of Centresoft and newly partnered with David Ward of Ocean. Together they created a monster that would eventually reshape the way software was published and careers managed.

"The vision for US Gold came one night as a sort of flash of inspiration along with the name and the strategy!" recalls Brown. "My background was in music and I sort of conceived US Gold as a record label with lots of artists on it. I believe the brand was seminal and influential in the whole growth of the UK industry we know today because of its absolutely incredible roster of products, its packaging, marketing and advertising and dominance of the UK software market through the 1980s."

SPEED 183

SPEED 235

Sierra was the chosen publisher for *Ultima II* because it was the only company willing to produce the expensive cloth map packed in with the game

AIRCRAFT   SCORE: 00000

LAP 1

TIME 00:22   FUEL

LAP 1

TIME 00:22   FUEL

SPEED	TIME	HIT	MISS	SHOTS	PULSE
	1:07.1	4	1	15	109

POISON   (FRG)

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Counter-clockwise from top: *Raid Over Moscow*, *Pitstop II*, *Winter Games*, *Impossible Mission*, and *Boulderdash*. These titles defined an era for 8bit computer gaming

All good ideas have to start somewhere and in the history of seismic first deals signing *Beach Head* from Carver, an introverted Mormon, ranks alongside Virgin snapping up 'Tubular Bells' from a reclusive hippy named Mike Oldfield. The impact was immediate.

"It immediately took off," agrees Carver. "I think the graphics and the depth of play were *Beach Head*'s main selling points. Suddenly, we began receiving calls from distributors, who wanted to buy quantities of 2,000 to 4,000 units (at a negotiated price point, of course). As I recall, *Beach Head* ended up selling over 500,000 copies worldwide over the next year and a half and basically changed my life forever."

Brown remembers the game with similar respect, although his figures don't quite tally: "There was nothing remotely as good coming out of the UK back then. I remember one of the publishers at the time saying he might as well scrap all his products in development as they looked so amateurish next to *Beach Head*. It sold well over a million copies! I also converted it to the Spectrum and Amstrad where it was equally successful. It was just a great concept."

A hole in one

Buoyed by fanatical interest in *Beach Head*, Access produced two sequels (*Raid Over Moscow* and *Beach Head 2*) as well as a range of acclaimed but commercially modest *Tex Murphy* games. However, the company's next title proved to be even more influential. *Leaderboard* was important not just for being the first accurate representation of golf, but for luring all those middle-class, middle-age enthusiasts to something as frivolous as a home computer. Suddenly it was acceptable to play computer games – even at work – leading to a rash of office-friendly titles culminating in *Doom*. In due course, *Leaderboard* begat *Links* which continued to generate sequels right up to the current *Links 2003* – all but the last with Carver still in the driving seat.

Of course, he was not alone in this new vanguard. There was Dennis Caswell, whose *Impossible Mission* broke new ground with its use of speech synthesis ('Ah, another visitor… Stay a while… Stay *forever*!') and was immediately snapped up in 1985 by the now-omnipresent US Gold.

"It was a landmark product in lots of respects," says Brown. "It had fabulous animation, great complex challenges and speech. I would consider it one of the best games ever released for the C64. Caswell also collaborated on another classic game – *Pitstop* from Epyx."

And then, of course, there was **David Crane**.

If anyone in the videogame business can justify comparison to Orson Welles, then Crane is surely it. Jealously protected by Activision and one of the first to enjoy star billing on a videogame box, he was a precocious genius who crossed platforms seemingly at will and even now sees his ideas borrowed, often without due credit.

"Looking back on my childhood in the late '50s and early '60s, I realise that I was always a game designer," Crane says now. "I was the kid who would interpret – and rewrite, if needed – the rules of classic board games. I also lived and breathed technology. This was before the PC, and to feed my hunger I had to build circuits, rewire televisions, and so on. I could envision something that had never existed, and immediately know how to translate that vision into reality."

From a mundane beginning as an engineer at National Semiconductor, he was asked by a friend to proof read a recruitment ad for game programmers. "Later that night I went in to work and I typed up a resume," says Crane. "I interviewed the next morning, got a job offer from Atari by noon, and gave notice at 2:00pm. A videogame is a consumer product that requires artistic skills, design ability, and tremendous technical proficiency. So I decided to give it a try for a couple of years."

His first game on the Atari 2600 was *The Activision Decathlon*, but his second (*Pitfall!*) managed to redefine a genre – the platform game. "So many of my proudest moments revolve around technical details so obscure that there are only a handful of people who ever fully appreciated them," recalls Crane. "I had an image on the screen when the man who designed the 2600 chipset walked into the lab. He stared at my screen for a while and finally gave up. After I explained what I was doing, he just shook his head
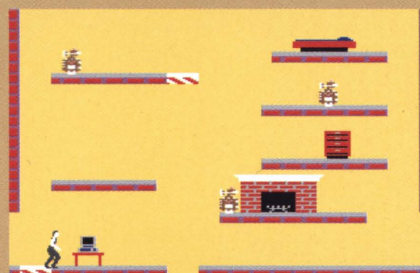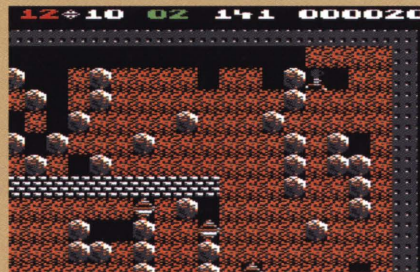
and said, 'I designed the chip and I had no idea it could do that!'"

Despite all this success, US labels were just as prone as UK publishers to overlook the talent upon which their success was built. In fact, the reasoning behind this was part of American corporate culture. Richard Spitalny, still president of First Star Inc (*Boulder Dash*, *Spy Vs Spy*), suggests this made good business sense at the time, avoiding the embarrassment of star names (Mathew Smith) failing to deliver on time – or at all. "We follow rock stars and musicians here, regardless of their current label," he says, "and I think US software publishers were

Liepa looks back, however, it was not the golden opportunity it may at first appear: "At the time, *Boulder Dash* seemed far from a global craze. In fact the games industry seemed to be going into a downturn. And if there was indeed a global craze I suspect it must have been fuelled by piracy."

The main problem for Liepa, which he is modest enough to admit, is that great programmers rarely made great businessmen. Certainly the likes of the Darlings and Stampers managed to forge significant business empires but, by and large, the longevity of the lone coder was determined more by serendipity than shrewdness.

ARGUABLY THE FIRST SURVIVAL HORROR GAME, *FORBIDDEN FOREST* OFFERED PIXELLATED BLOOD AND A DAY/NIGHT CYCLE

reluctant to (publicly) build their business based on personalities and, with few notable exceptions, they purposely minimised the importance of the 'artists'."

One such artist was **Peter Liepa**, who broke on to the scene in 1983 with a modest little phenomenon called *Boulder Dash*. Although in essence it was a reinvention of Atari's *Dig Dug*, its bold, chunky sprites and fiendishly scripted traps were ideally suited to the C64 – once again providing a more thoughtful challenge than the *Space Invaders* and *Centipede* clones being pumped out for the Spectrum.

"I wrote *Boulder Dash* over the course of six months in 1982, first in FORTH, and then in assembler," says Liepa. "It was one of the most satisfying things I've ever done, because it drew on so many parts of me, from musician and artist to mathematician and programmer."

According to First Star, it sold over two million units of *Boulder Dash*. A recently released GBA version made it one of the longest-running franchises in existence. As

"I didn't hook up with an agent who could have concentrated on finding the best market for my games," Liepa explains. "Nor was I entrepreneurial enough to hire others to develop games. I found the process of developing a game and selling it to a far-away publisher rather lonely, and felt that I needed to find something that involved a workplace with several co-workers."

Seeing the wood for the trees
Another example of promise not quite matching performance is provided by **Paul Norman**. Like *Beach Head* and *Impossible Mission*, his first game, *Forbidden Forest*, contained a stream of memorable firsts. Arguably the first survival horror game (fighting for that claim with Sandy White's *3D Ant Attack*), it was also perhaps the first to feature pixellated blood, day/night cycles and a musical score that evolved as the action progressed. Surprisingly, the audio track was penned by a professional guitarist, then better known for touring with Steppenwolf, Chicago and Taj Mahal.

"In '82 – I think – I bought a Commodore VIC-20," says Norman. "I've always been a sci-fi buff and so expected personal computers to show up sooner or later. I taught myself BASIC and immediately began building games. Of course, one must remember that the VIC-20 had all of 5K of RAM to work with and I couldn't do anything too spectacular until I expanded that to 8K and landed my first job. I upgraded to a Commodore 64 and I taught myself 6502 machine language by creating *Forbidden Forest*. I had three months in which to write it."

The game was an instant hit, and once again owed much of its kudos to US Gold and success in a far-flung land. Norman: "I think the UK reaction really started the ball rolling and certainly spearheaded demand for the
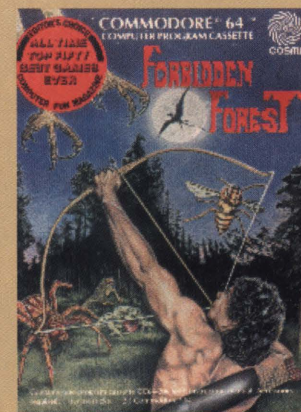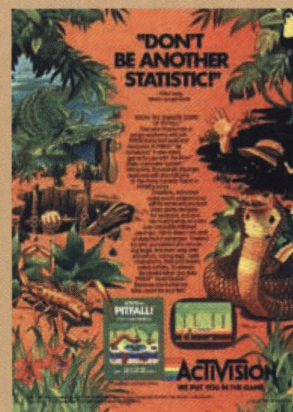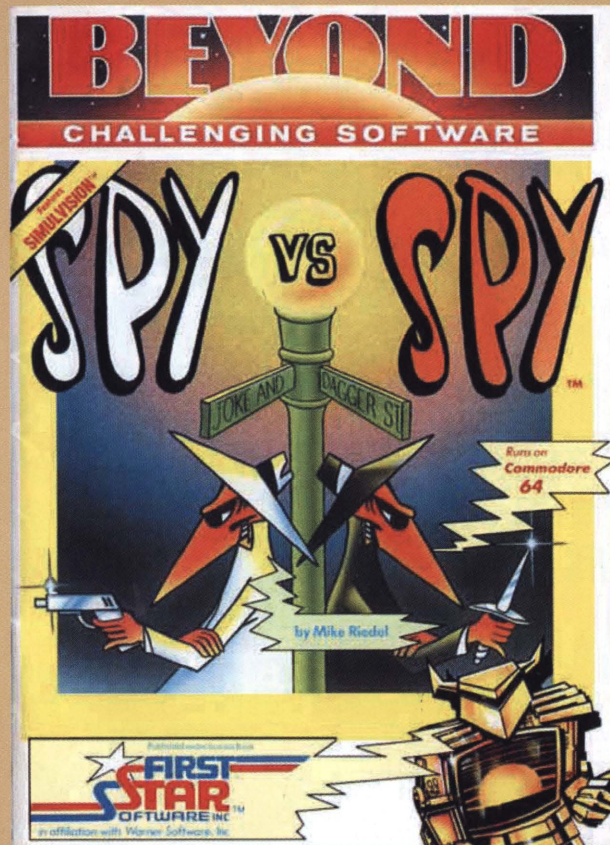
First Star, Activision and Cosmi: three very American names with rosters of very American software. They didn't always hit the mark with their artwork, though…

Acclaim once had its own animated series. 'The Power Team', from 1988, featured characters from Acclaim games such as *Narc*, *Arch Rivals*, *Wizards and Warriors*. Kwirk the tomato and Bigfoot the monster truck also appeared
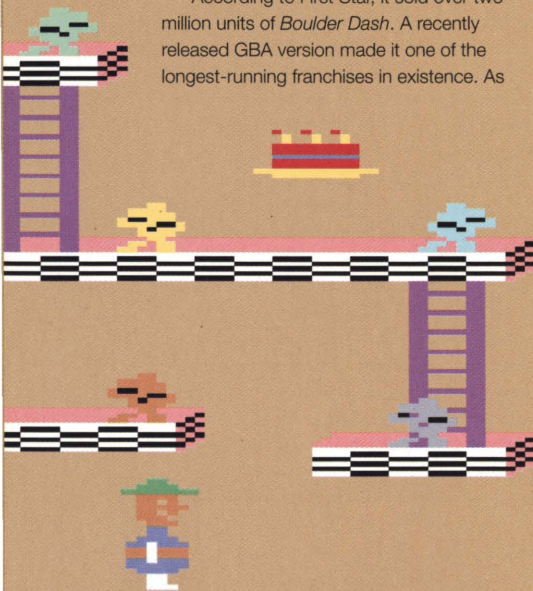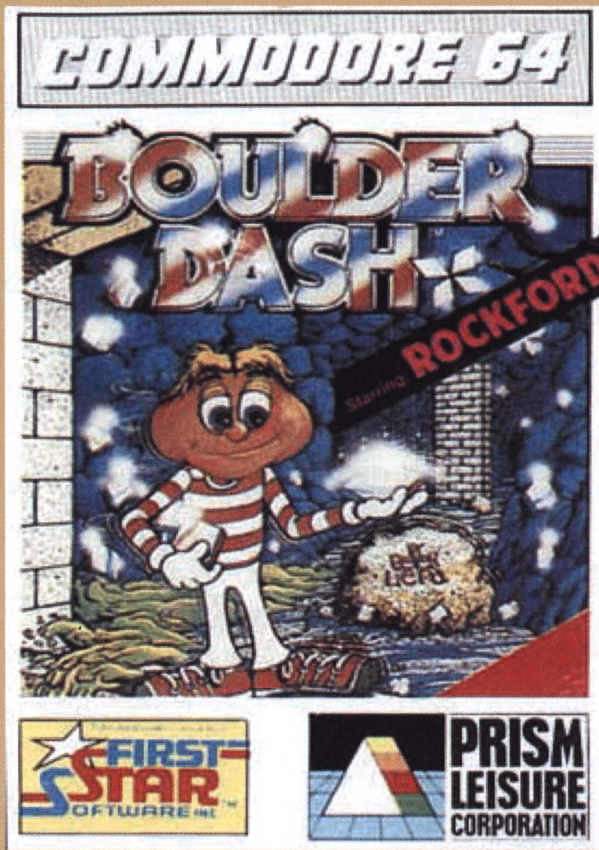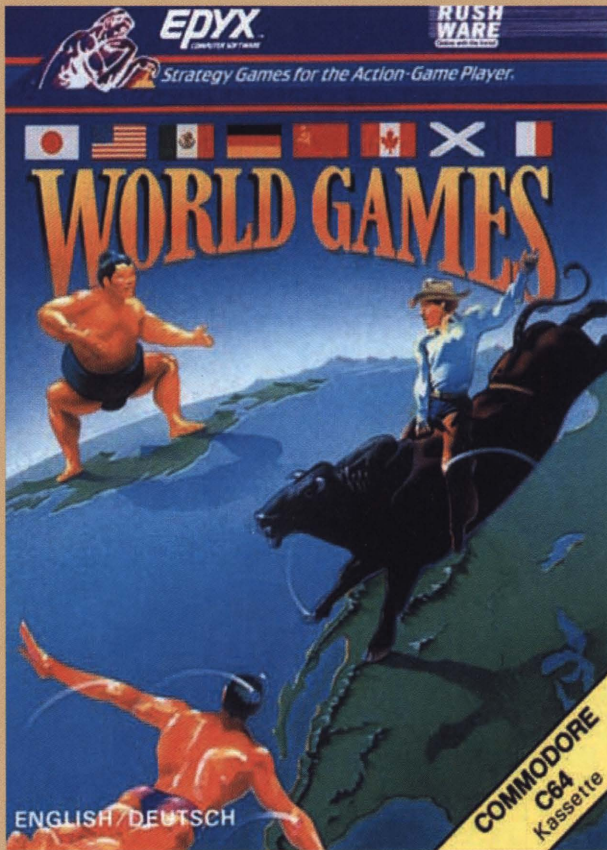
For some time, Epyx was synonymous with grade-A software, like a latter-day Nintendo. Its *Games* series, in particular, delivered benchmark multiplayer experiences. *Boulder Dash*, meanwhile, beguiled '80s gamers with its convoluted puzzles. Its patently obvious US branding (below) ensured that it rode an influential wave
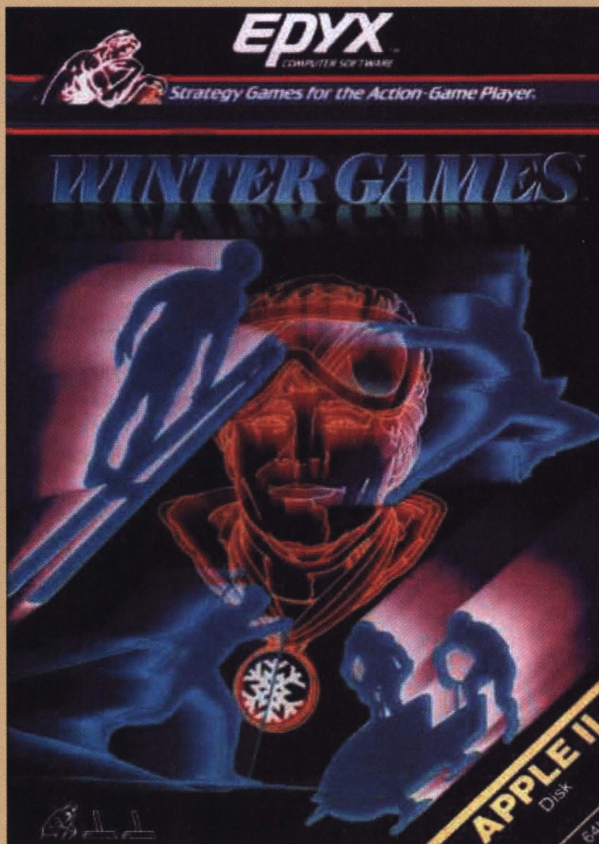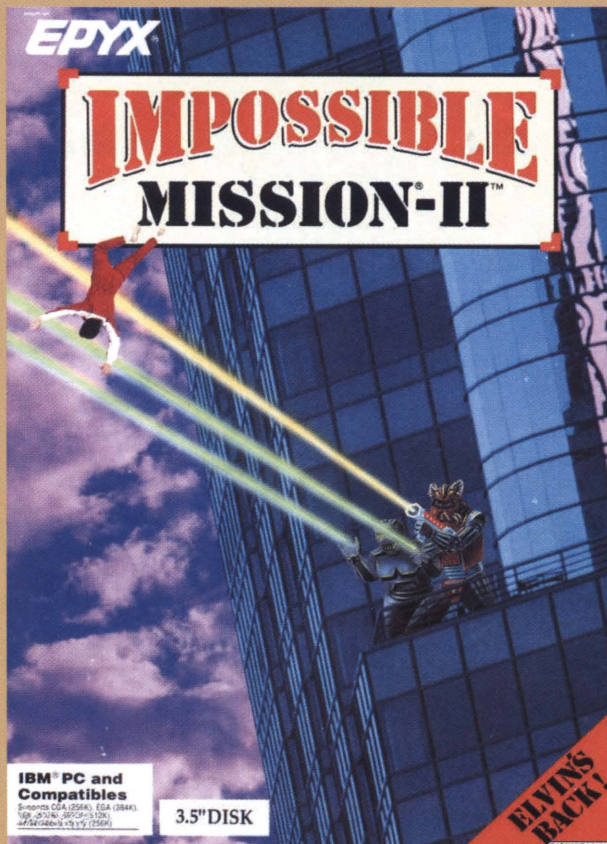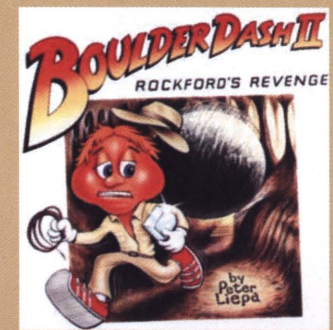
next few games like *Aztec Challenge* and *Cavern Of Khafka*. Each year at CES in Las Vegas, the majority of buyers I met were from the UK and Europe."

Unfortunately, as with Liepa, commercial success failed to trickle down to the little people: "What I can say is that in hindsight, business then was not very different from any business ever. The people in charge take what the workers make, get as much money as they can for it, lie to the workers about the gross and keep as much of it as they can. I know now that, while I made a decent living for the time, I never received a fair percentage

computer gaming. After games like *Beach Head*, *Forbidden Forest*, *Impossible Mission* and *Boulder Dash*, being cute and smart was no longer enough. You had to be loud and sexy, too.

In the long run, of course, the desirability of all this Americana came into question. By jumping on the licensing bandwagon, labels like Ocean and Elite rubbished their own names by churning out cash-ins on licences such as 'Knight Rider' and 'The Dukes of Hazzard'. While it worked, however, the mid-'80s was a true golden age, combining the best of British marketing with the slickest of

Paul Norman's *Forbidden Forest* was revolutionary in many respects: it featured a day/night cycle and an audio score by a professional musician

> ## "I NEVER RECEIVED A FAIR PERCENTAGE OF THE REAL PROFITS. ALL I CAN SAY NOW IS: CEO GEORGE JOHNSON, KISS MY ASS!"

of the real profits. I blame myself for not participating more intelligently in the business end. All I can say now is: George Johnson (ex-CEO of publisher Cosmi), kiss my ass!"

From trickle to flood
Throughout the mid-'80s the flood of imported software continued, creating smaller rivals to US Gold such as Electric Dreams and Elite Systems, and reawakening sleeping giants like Activision which moved from bust to boom on the strength of slapping stars and stripes on packaging as a seal of approval. Indeed, from 1984 to 1989 American coders largely set the trends and called the shots in the world of

American production. In an age when publishers are multinationals and development of a major title involves participation from three continents, it's unlikely that one nation will ever have such an impact again.

"It was the quality," concludes Brown. "At a time when we had one block shooting another and called it a game, they had real tanks and spaceships. Their programmers were older, more structured, they had more technical expertise. And, of course, they had all the best hardware. The Japanese only started to take control in the '90s with their own machines. Back in the '80s the Americans had it all."

WHERE ARE THEY NOW?

Bruce Carver
Now 54, Carver has a new family business building custom-spec homes. He enjoys dabbling in his other passion of recording music. Having grown steadily to over 150 employees, Access Software sold out to Microsoft in 1999, with Carver contracted to stay on for a further three years.

"I was anxious at the end of that time to leave. I had become too much of an entrepreneur and didn't fit in the large corporate system. I do miss the creative challenge but not the stress of being the dad to 150 families or being a rusty old spoke on the fast moving Microsoft wheel. Although I miss many of my old friends, I've never been happier."

David Crane
Crane currently runs Skyworks Technologies (www.skyworks.com), dedicated to producing free online games subsidised by product placement. How does he feel that the biggest-selling PC game of all time, *The Sims*, owes everything to a 17-year old title of his called *Little Computer People*?

"Alas," he recalls, "*LCP* was not a commercial success. Those people who 'got it' went overboard, but not too many people were caught up in the idea. We had great plans. Unfortunately, not enough people bought the first one to justify the development costs of additional products, so we moved on and directed our energies to other games."

Pieter Liepa
Despite writing a sequel to *Boulder Dash* (1985's *Rockford's Revenge*), Liepa ran into legal problems porting the original to other machines, and withdrew from game development in the mid-'80s. Although he emerged briefly in 1992 with a cult Solitaire-clone called BrainJam (brainjam.ca/brainjam), he remains jaded with the videogame industry and the undoubted potential he failed to realise.

"It probably highlights how many things have to go right for somebody to make a go of it in any creative business, even if there is an easy initial success," he reflects now. "And success is not always commercial enough to sustain a living."

Paul Norman
Norman is still active in game design (www.digittarius.com), constantly looking at new developments and understandably irritated that past success counts for so little with future investors.

"About 20 games and other programs later, I followed the industry on to the Web and have been hopping about in that brothel for the last six years," he explains. "The games industry is now exactly like film and TV industries, run by corporate interests and packaged by demographics and focus groups. This is the way of things. So be it."
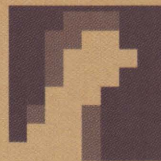
Dennis Caswell
Caswell wrote a sequel to *Impossible Mission* in 1988 and continued to be involved in games until at least the mid-'90s, most infamously with *The Leather Goddesses of Phobos*. Unfortunately, despite frantic efforts and a phone bill the size of Etna, **Retro** was unable to track him down for this retrospective. We wish him well.

Geoff Brown
Having created two great monoliths (Centresoft and US Gold), Brown sold out to Eidos and set up the umbrella-like Kaboom Studios. Never knowingly understated, he now focuses his time on development and remains as ebullient as ever.

"I am what is called a serial entrepreneur in that I have a knack of spotting and taking advantage of key opportunities when they arise rather than the normal way of weighing them up very analytically before a decision is made," he says. "Pioneers usually get shot; however we might have been the one exception to the rule."

There is a real Monkey Island. Mono Island ('mono' being Spanish for monkey) is located in the Caribbean. Its residents are not believed to be cannibals
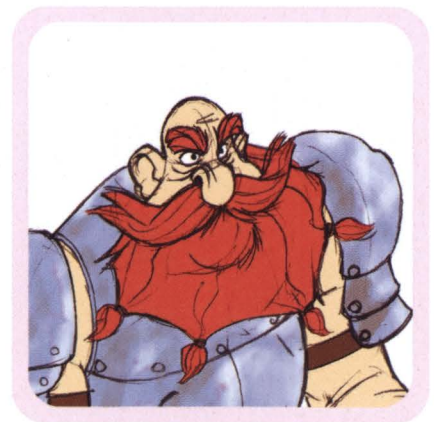
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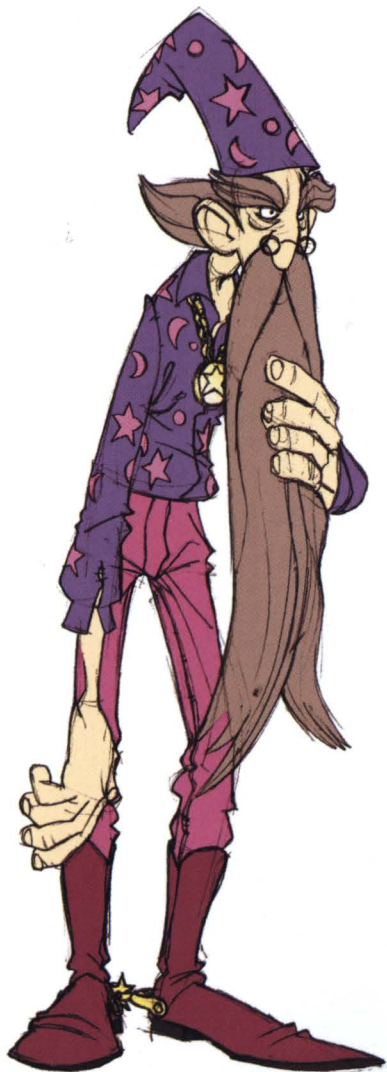
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Defender and *Robotron* were exhilirating, head-spinning adrenaline shots to the 1980s videogaming scene. **Retro** tracked down the games' creator, Eugene Jarvis, in order to try and work out his secret formula

"Failure sucks," laughs game developer god **Eugene Jarvis**. He mocks people who suggest that failure is a learning experience and recommends you "learn from other people's failures, not your own." That's easy to say when your first ever videogame was the arcade classic *Defender*, a mega hit, the first ever for Williams Electronics. Jarvis admits it wasn't all skill. "I was really lucky," he says now.

Defender was Jarvis's first videogame, but not his first game. A self-confessed pinball nut, he spent a couple of years in the late '70s working for Atari's little-known pinball division. In 1979 he left Silicon Valley to work for Williams in the suburbs of Chicago. In 1980 he produced the sound and visual effects for *Firepower*, the first electronic multiball pinball game. If by some fortunate happenstance you have access to the machine, listen closely: many of its

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sound effects were later used in *Defender*. They're the same audio snippets you hear today in tracks like 'Body Movin' by the Beastie Boys: 'And if you play *Defender* I could be your hyper space'.

Heading into hyper space

Through most of the '70s Jarvis failed to be inspired by videogames. To him they remained novelties. There was no evolving intrigue; games at the time revealed all their content within the first five seconds. They lacked any form of intelligence. "All the games up until then were about players playing players," says Jarvis in reference to games like *Pong*, *Tank* and driving games. "*Space Invaders* kind of started the whole genre of man-against-machine play in videogames. It was a challenge for you to beat the machine and all the enemies within it. Which in someway is kind of similar to pinball." But, unlike pinball, *Space Invaders* was waved-based. It got harder and harder. And although Jarvis was still a pinball nut, he realised that "video was a much bigger frontier. [There was] much greater latitude for creativity."

"Videogaming has been certainly a field in which there's been unremitting thievery of concepts," says Jarvis, who unabashedly stole concepts from *Asteroids*, a game developed by his former Atari coworker, Ed Logg. Jarvis's thievery began by co-opting *Asteroids*' sensation of flight – its thrusting and firing. (The technique that not unique to *Asteroids*, of course – Logg had stolen the space-flight formula from an earlier game, *Space War*.)

But thievery among arcade titles was about evolving from and not duplicating previous games. For example, at first *Defender* copied *Asteroids*' wraparound universe. But instead of confining it to one screen, *Defender*'s universe extends to a handful of screens. Jarvis allowed events to occur outside of onscreen view. As a result, "you had this huge arena for gameplay… It allowed you to really have this feeling of flight."

Jarvis liked the explosions in *Asteroids*, but wanted his explosions to be more fantastic. So he brought on Sam Dicker, an 18-year-old programmer, to make sure players didn't forget those sounds of destruction and the rest of the non-*Firepower* sound effects.

Technically not failures, Jarvis admits he produced two un-fun versions of the game. These early editions were vertical, featured rocks (thanks, *Asteroids*), a spaceship that shot in three directions, and then another that had a spinning turret. Nothing worked. Only one thing good came from the first few

Space Invaders wasn't just a bank-breaking arcade phenomenon after its 1978 launch: it was also the first arcade game to be ported to a home console, the Atari 2600
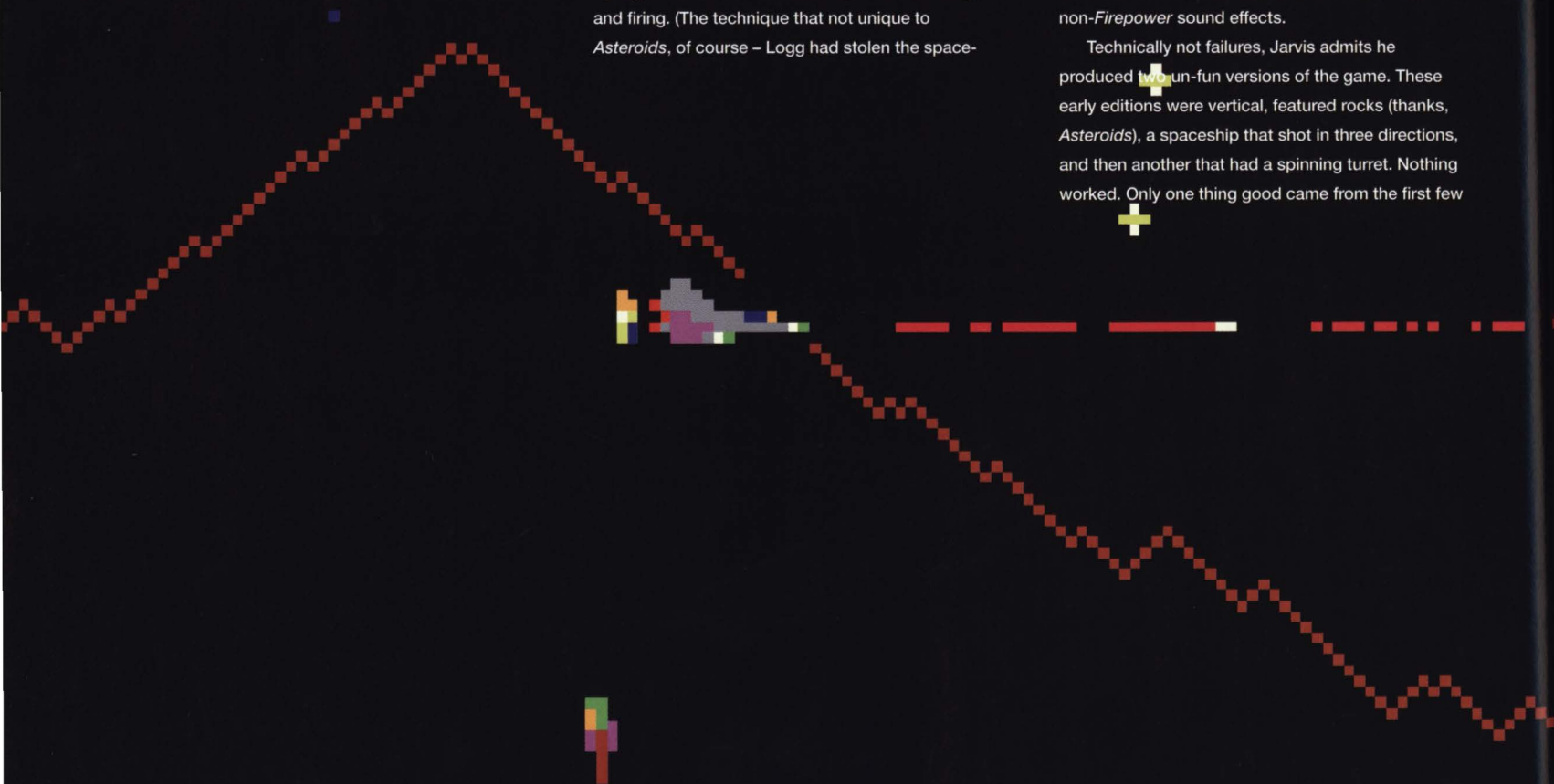
"ONCE YOU'RE ON THE DEFENCE, YOU CAN CONDUCT HEINOUS AMOUNTS OF VIOLENCE AND DESTRUCTION AND THAT WOULD BE COMPLETELY JUSTIFIED"

months of development. Jarvis decided to call the game *Defender* – a name he adopted from a courtroom drama entitled 'The Defenders'. But there was still one major problem. The player wasn't defending anything.

Defence as a form of attack

Defending is a more intense feeling than conquering. It invokes the emotion of survival. Speaking about the success of Clint Eastwood films, Jarvis notes, "If you're on the defence, you can do heinous acts of violence and destruction and that would be completely justified." Realising he needed something

to defend, Jarvis introduced little humans.

But who are you defending your little humans from? This time the inspiration came from the game *Berzerk*. "I remember playing that game… You got so frustrated playing that game… You really hated those robots… It really got that emotion up on you. That's what I was missing

in *Defender*… We didn't have a really bad guy."

Berzerk helped Jarvis realise that he needed a bad guy. Many videogames had bad guys, but he wanted a really bad guy. He saw it in the first 'Star Trek' movie. In the film, a peaceful exploration probe collides with a war probe to create an even more horrible device that seeks to destroy the universe. "That led to the gameplay element of the lander coming in kidnapping your people and mutating into this mutant which was the true bad guy… the ultimate bad guy," says Jarvis. "What better bad guy than a green Martian?" Similar to Space Invaders, "they were the universal bad guys of that era."

Control freak

The number of controls featured on the *Defender* can be overwhelming to the newcomer. For your right hand, the second finger controls your ship's thrust and the fourth finger fires the guns. In times of trouble, your right thumb remains poised over the smart bomb, ready to destroy everything on the

screen. With your left hand you control vertical movement with an up-down joystick while switching directions with the reverse button under your thumb. But this combination was not intentional: Jarvis and his team had initially wanted a multi-directional joystick, but they couldn't find one that was cheap and reliable. They therefore settled on a two-way-joystick-and-reverse-button combination.

In the middle of the control panel receiving the least attention was hyperspace, ripped off wholesale from *Space War* and *Asteroids*. "It was kind of like you were playing *Asteroids* with your right hand and *Space Invaders* with your left hand – but sideways *Space Invaders*," suggests Jarvis, "It was a little bit of a mind bender for the time. I remember many people when they first would play it they would just think it was *Space Invaders* sideways and they'd just go up and down shooting people and then finally some alien would finally come down right above them and walk right into them. And they would be totally perplexed."

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Everyone is afraid

When *Defender* debuted at the AMOA show in Chicago, nobody wanted to play. Except for a few kids, most people were scared of it. Jarvis: "Everyone was afraid of looking like an idiot that nobody really wanted to play it." The press panned the game, claiming it was too complicated.

Despite negative reviews, Jarvis spent one more week finishing the game. He had already rewarded players with additional ships at 10,000-point increments – another aspect stolen directly from *Asteroids*. But *Defender* wasn't all about collecting ships. It was also about protecting people. So Jarvis decided to give players new sets humans after every five waves. It was an afterthought, but according to Jarvis the addition "turned out to be the key to the whole game."

During *Defender*'s debut week, the average game time was 37 seconds. This was a shockingly low number since developers at the time were creating games for 90 seconds of playtime. Jarvis thinks that the reason people kept playing was because they felt responsible. "That's kind of one of the big keys to game design: you have to make the player feel responsibility that he fucked up... It was his fault,"

he believes. "He could have done this... He could have shot the guy before he picked up the man. He could have shot him while he was picking up the man. He could have caught the man instead of letting him fall to his death... You have this feeling: 'Hey, I could do better'." And you try again.

Jarvis loves watching a great *Defender* player. Record holders could play the game for 60 to 70 hours straight with no sleep. He likens the virtuoso behavior to watching Michael Jordan on a basketball court. The great *Defender* player is in a zone. He is completely calm even though he's constantly processing an endless stream of information. It is this "complete mental overload" that Jarvis loves the most about the game: "All these multiple sets of priorities where you're constantly have to decide: where should I be right now? What should I be doing right now? What is my optimal strategy? Where am I

going to get the most payback? Should I waste my time rescuing this guy or let him fall to his death and save three other guys?"

Not long after its introduction, *Defender* became immortalised on a US postage stamp. Why didn't the honour go to a more popular game like *Pac-Man*? Jarvis had an inside edge. A friend on the selection committee reminded everyone that *Pac-Man* was Japanese.

Life after Defender

Williams was understandably thrilled with *Defender*'s success, but Jarvis wasn't thrilled with Williams. The company began to spin out of control in a chaotic hiring frenzy, as its star designer now relates: "[It] was like the monkey-and-typewriter school of management: 'Hey, we get some idiot like Jarvis, put him in a room, and we get *Defender*. God, if we hired

"ONE OF THE BIG KEYS TO GAME DESIGN IS THAT YOU HAVE TO MAKE THE PLAYER FEEL RESPONSIBILITY THAT HE FUCKED UP – THAT IT WAS HIS FAULT"

The first handheld electronic game was Mattel Toys' 1976 *Auto Race*, which used small LED lights to represent cars on a racetrack...

50 of these guys we'll have 50 *Defenders*'." Feeling like he had become one of the herd, Jarvis and his friend Larry DeMar walked out to start their own company, Vid Kidz. The next day, Williams called: "You guys can't quit. We need another game after *Defender*." Jarvis and DeMar didn't want to go back, but they wanted the work. So they agreed to subcontract a sequel.

Vid Kidz produced *Stargate* in DeMar's two-bedroom apartment. Start-up costs included rent and a Motorola Exorcisor – a pre-PC development unit with a price tag of $40,000. The two couldn't work on the machine simultaneously, and start-up financing prevented them from shelling out the cash for another unit. As a compromise, Jarvis and DeMar began working around the clock, shifting alternate sleep and work schedules to meet their deadline. It's a process that continued to work even for their next game, *Robotron 2084*.

The robots are taking over

In the early '80s, the advent of the PC brought about euphoria of the impending computer age. People began to prophesise the new and wonderful ways computers were going to help humans. Everyone except Jarvis: "I was kind of into this whole robots-taking-over-the-world fantasy thing." He thought computers would become too smart to want to help us: "These computers keep getting better and better… Humans, you know, we're not doing too well… At some point the computers are going to be telling us what to do… What would this world be like?" Jarvis rationalised that this new robot breed would destroy the human race. Realising humans were psychos, the robots would think, "Maybe we really don't need these guys. Maybe for their own protection we should get rid of them."

Jarvis owes *Robotron*'s play mechanics to *Chase*, an old Commodore PET character-based game. In *Chase*, robots ('R's) pursue your character ('_') all over the screen. To kill the robots you let them follow you so that they walk into the mines ('X'). Playing *Chase* wasn't easy: you had no gun, and the enemies attacked you all at once.

Jarvis loved the 'all-at-once' concept of *Chase* and duplicated it using an eight-way joystick for movement. His non-firing robots were called grunts, and his mines were electrodes. Originally, *Robotron* was passive, and it was fun, but for only five minutes. *Robotron* needed firing. Jarvis knew: "People like to shoot stuff."

Twin sticks

"There was a mode in *Berzerk* if you held your fire button down, the joystick would then actually fire the bullet… And it was like, well, shit, just use the joystick to fire all the time. Get rid of the fire button… Have one joystick to move and one joystick to fire." The two joystick controls were a welcome addition: Jarvis had broken his right hand in a car accident; the cast prevented him from moving his fingers and hitting a fire button, but with a fire joystick he could tape his cast to the joystick and play.

Once the joystick assumed fire control, Jarvis and DeMar realised the game now had amazing firepower. They asked themselves, 'How many guys can we kill in ten seconds?' So they began testing, cranking up the number of grunts to 20, 50, 70. At each increment, the game got more exciting. Once they jammed 120 grunts on the screen, the computer finally crashed. They were amazed to be having so much fun on only the third day of development. "I've never had a game before or since then that was that much fun and that much insanity in three days of work," Jarvis remembers. "Somehow we had just

"YOU NEED TO HATE THE BAD GUYS. BY KILLING THESE INNOCENT HUMANS… THAT CREATES THIS TRUE EVIL THAT YOU CAN GET REALLY UPSET ABOUT"

stumbled on [this] unbelievably intense experience which required only three days of programming… It was amazing how much mileage you could get from this simplistic play mechanic of you're in the middle, you're surrounded by all these things… Where do you want to run?"

The game was fun, but "to make a really, really great game we need to add more to it. We need more stuff… The next four or five months were spent bringing on some of the AI and some of the other enemy characters."

The Otto influence

The first character created after the grunt was the Hulk. All brawn and no brains, the Hulk has a huge body and a small head. "[He was] similar to [Berzerk's] Evil Otto in that he could not be killed," relates Jarvis. You can shoot him and drive him back. But he's more like a moving wall, randomly walking around with very loose player-seeking ability.

Next up was the Spheroid. Destroy it before it spawns the hovering Enforcers. "By making him float around we didn't have to do any animation on him. That was a welcome work reducer," reveals Jarvis. It also cut down on processing time. The Enforcer's projectile, a Spark, can shoot at you, randomly around you, or sense your direction of movement

and add velocity to its shot, hoping to hit you in motion. This acceleration results in a curving shot which many mistake as a seeking shot.

Conceptually opposite of the Hulk is the Brain. All brain and no brawn, the Brain can use his powers of psychokinesis to fire guided missiles in addition to reprogramming humans to turn on the player. Reprogramming is the most emotional moment in the game. Your hatred for the Brain grows as you see him shake the mother character, strip her of her humanity, and turn her into a relentlessly pursuing zombie.

The last character, the Quark, was DeMar's inspiration. Similar to the Spheroid, Quarks give birth to Tanks. The Tanks' bouncing projectiles require the player to not only avoid the firing angle, but also the rebound angle. Most players are scared of tanks and resign themselves to losing a few men on each Tank round.

The last human family

Before the Brain's inclusion, Jarvis introduced 'The Last Human Family' – a perfect family nucleus with mum, dad and Mikey – so named after the character in a Life cereal commercial in the US. 'Mikey' was also a jab at Jarvis's employer – it was the first name of Williams' president.

"You need to hate the bad guys in the game," says Jarvis. "They need to do something that's really horrible. By killing these innocent humans… That creates this true evil that you can feel more emotionally attached to and get really upset about." If the death of humans doesn't upset you, the loss of points they represent definitely will. Rescuing your family is the biggest scoring option in Robotron. Similar to Pac-Man, scoring increases by 1,000 points up to 5,000 for each human you save. "It gets very tiring if you play a game and just everything you want to kill. It's nice to have something that you don't want to kill," says Jarvis.

The Robotron universe

There's a strange asymmetry to the world of Robotron that's not obvious at first glance. Jarvis:

< 068 > During prototype stage, the VCS was codenamed 'Stella', after Atari engineer Joe Decuir's bicycle

"[The game] kind of screwed you as a player. Your enemies had complete freedom of motion. Their shots would travel through them and through each other, but you were just the ultimate fly paper. And anything that hit you, you were dead."

Luckily for the player, *Robotron*'s enemies never get smarter, they just increase in number. That much activity on the screen requires an intense amount of processing power. Williams had to design a 1MHz chip specifically to run *Robotron*. When the intensity of the game heats up, there are not enough processing cycles to handle all the requests. Get good enough to play at the higher levels and the enemies may get a little dumb. That's because when processing cycles are maxed, the first routine to lose out is artificial intelligence. Jarvis and DeMar never wanted graphical glitches, so they gave top processing priority to the visuals.

Jarvis knows of no other game that has *Robotron*'s body count. If you can play 20 minutes of it, you've probably killed 500 enemies. Good luck. The average time for many players is about two minutes. Some gamers simply cannot handle the independent movement of the two joysticks and treat them as one, moving them in the same direction simultaneously. *Robotron*'s difficulty scared a lot of people and as a result it never became as successful as *Defender*. Jarvis admits he had become jaded from *Defender*'s success and was hoping for the same response. But the test of time may determine the true winner. *Robotron*'s full title is *Robotron 2084*, an homage to Orwell's 1984. *Defender* may have been big in the '80s, but Jarvis believes that there are more people actively playing *Robotron* today.

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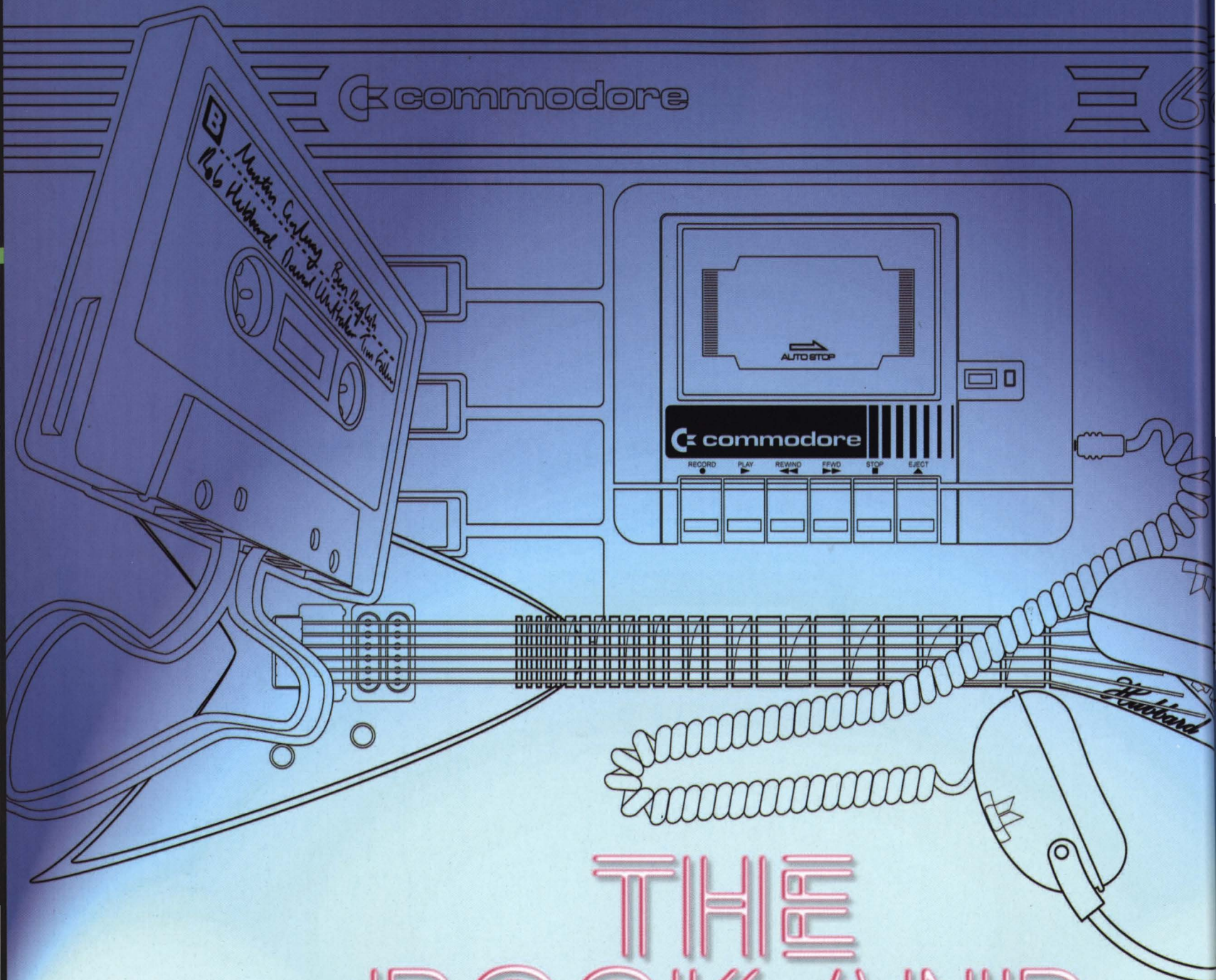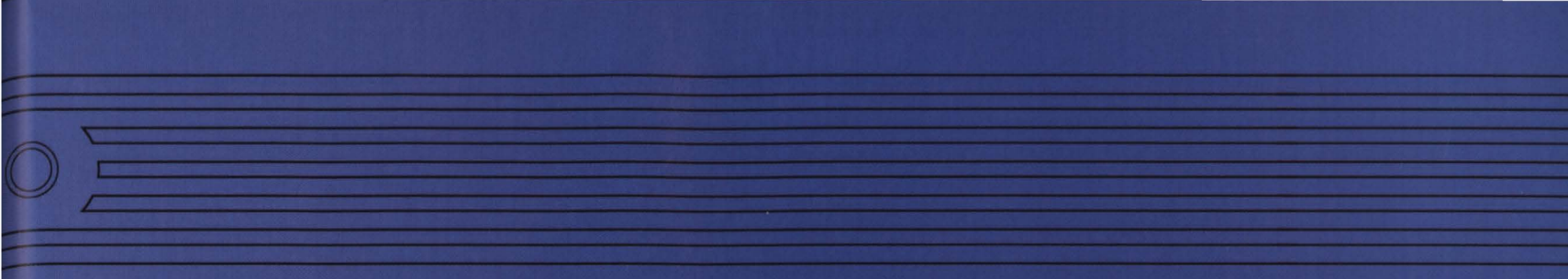
THE ROCK AND ROLL YEARS

In the '80s, thousands of gamers cared more for computer game music than they did for the games themselves. **Retro** tracked down the musicians who set out the era's soundscape in order to discover how they made such an unusual impact

They don't make legends like they used to. Game music, like pop, is now a disposable commodity – necessarily formulaic, compromised by accountants, evaluated by clueless executives, and ripped apart by demographics.

Yet a band of pioneers once changed game music forever, transforming audio from tinkly infant-jingles to mature soundtracks. To those who 'got it', game music was briefly the new rock 'n' roll. Fans bought games for their audio alone. Pitiful titles sold simply because of the soundtracks they bore. And the musicians themselves had fun, making up the rules as they went along. Magazines of the time interviewed them as gods. Then, like most rock gods, they were quietly forgotten.

Rock 'n' roll hardware

The growth of rock 'n' roll was made possible by the electric guitar – a sound instantly recognisable and anarchic. The equivalent of the time in game music terms was the Commodore 64 sound chip (MOS6581 Sound Interface Device, or SID). Its eccentric engineering and obscure features were out of place in a machine intended for business. This was, ironically, a by product of corporate thinking. "They thought that they were adding such esoteric capabilities – in the name of a 'long feature list' for Jack Tramiel – that no one would ever use all those things to the fullest, so they never debugged them," says **Martin Galway**, who composed some of the most memorable videogame music in existence on Commodore architecture.

This was hardware that could justifiably be called an instrument, to the point where it attracted attention from the technical music press. More importantly, it began to attract musicians. They came for the hardware, but they stayed for the opportunity to tap a fertile art form.

The earliest convert was **Fred Gray**, originally hired as Imagine's in-house music man, and master of the bouncy tune. His jolly melodies and later the

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Copenhagen's self-styled boy band Press Play On Tape do their C64 thing at Back In Time Live

In the name of love

There were certain things all true C64 music fan did: buy games just for their music, create compilation tapes lovingly recorded from the computer itself, swap those tapes with their friends, and vote in the music charts in *Zzap!64* magazine (*Delta* and *Sanxion* always sat near the top). To this day most of those fans are vaguely ashamed of this – even though everyone did it.

However, since 1995, the C64 music scene has grown dramatically, leading to a completely new phenomenon: live events (Back In Time Live, Retrovision); ambitious remix CDs assembled in studio conditions (from record label C64Audio.com (www.c64audio.com/shop); over 1,000 released remixes (remix.kwed.org); sites full of interviews (//www.remix64.com, www.imr.c64.org); a radio station (c64.org/radio); a heavy rock combo (Machinae Supremacy); and – though you may struggle to belive it – even a boy band (www.pressplayontape.com).

The hardcore nostalgic can buy individually tailored CDs of SID music from Binary Zone PD (lovingly recorded from an actual Commodore 64), or download virtually every single tune ever released to play on your spanking modern PC or Mac (www.hvsc.c64.org).

(To listen to the original of Zombie Nation's 'Kernkraft 400', check out David Whittaker's *'Lazy Jones, Subtune 21'*.)

happy soundtracks of David Dunn were rare examples of game music being treated as something more than a simple afterthought (although serious electronic pieces such as Gray's later work remained inconceivable).

That all changed in 1985, when game music discovered its twin deities: **Rob Hubbard** and the aforementioned Galway. The latter had been established at Ocean since 1984, but Hubbard's entry into the scene reinforced Galway's conviction that game music was an art form. "At that time I realised I had some competition," he remembers. "I thought I was the only one taking it seriously."

Monty On The Run was so well received that Rob Hubbard imbued the job of freelance musician with the sort of acclaim to which 'proper' musos become addicted

Hubbard's entry into computer music was as driven by the same conviction that computer music was ripe for revolution: "Originally I viewed game music as simply dire, with wrong notes all over the place and just bad musically. That's why I started: I thought I could at least get the notes right! I didn't think of it as pioneering. We simply got on with it and had a lot of fun. And it was also additional income to help pay the bills, too."

Hubbard underplays the impact he had. But he changed the rules. *Thing On A Spring* (for which he was apparently paid £25) and *Monty On The Run* (featuring the first violin and guitar

solos in computer game music) were so well received that he imbued the job of freelance musician with the sort of acclaim to which 'proper' musos become addicted. "Everyone else at the time were schoolkids except Rob," says **Ben Daglish**, another C64 musician. "He was a great experimentalist."

Hubbard's influence ran deep, as **Richard Joseph** (now head of audio at Elixir Studios) relates: "I hadn't heard of any musicians until Pete Stone at Palace played me Rob Hubbard's *Monty On The Run* and said: 'Make it like that'."

David Whittaker, another tunesmith taking his first steps at the time, was blown away by the work of the industry's leading lights: "I didn't know of *any* other computer musicians until 1985/6, when I first heard Galway and Hubbard music, which really impressed me. They were doing stuff much better that my simplistic fare. I then immediately realised that I had to pull my socks up – and started to do better."

Feeling like Buddy Holly

If Hubbard was the groundbreaking Elvis of the scene, then Galway was Buddy Holly: his music was more studious, introverted and technical –

though his sales technique was surprisingly sophisticated: "In March 1984 I was doing the audio for this BBC *Pac-Man* rip-off that my school friend Paul Proctor was programming and we agreed that if I could sell it, we would split the money. I looked on the back cover of *Personal Computer Weekly* and there was an Ocean ad – for *Kong*, I think. Since they were in Manchester I gave them a call. Once we got to Ocean, they bought the game easy enough, and so like any salesman I delved into my pocket for the number two product. I played my BBC tunes on their system there and they liked 'em, but David Collier

said, in his thick Lancashire accent, "There's no market for 't BBC round 'ere, lad, what d'yer know about the Commodore 64?" I said I didn't know much but I could try, so they loaned me (without any contracts) a C64 assembly language dev system to take home and mess with."

Where Hubbard's work was busy, Galway's was measured, trancey and abstract. When *Hyper Sports* and later *Rambo* appeared, he was elevated to rock god status. The adulation soon spread. "I had a lot of publicity in magazines," recalls Joseph. "On several occasions I got spotted in WH Smiths looking at the mags. You don't get that now, folks! They don't want individuals to be stars. Just the name of the publisher, and a list of as many credits as they can fit in the manual."

Digging the dirt

The 8bit era is primarily remembered as a quite innocent, fun place to be. Of course, there were occupational hazards. "There were a couple of peculiar set-ups – Mirrorsoft being an example, in the heyday of Robert Maxwell," recalls Daglish. "I seem to recall we had problems getting paid… though we did get tickets to the 'Biggles' premiere from them…"

"Robert Maxwell fell off his boat to his death, leaving Mirrorsoft owing me £1,000, which I never got!" attests Whittaker. "The fuckers!"

However, despite cowboys running rampant over certain people, the biggest names seemed to be treated well. Their reputations were widespread and even budget-game companies recognised that a title was more or less naked without a soundtrack from one of them.

If you weren't a big-name composer, though, things could be less rosy. "I suppose all my stuff has been freelance," says **David Hanlon** (ex-Bullfrog and composer on the *Druid* series), "although given the money I received, you might as well just read that as I worked for free!"

When musicians weren't working for nothing, they were in the pub together getting drunk – or at least that's the easiest thing to believe. "Once, I spent three days drinking absolutely non-stop – and I mean non-stop – in Glasgow with Tony Crowther and Dave Whittaker at a wedding. That

Fancy starting your own videogame empire? All you need is $500 (£320). Atari (1972) and Sony (1946) were both founded with that amount as capital
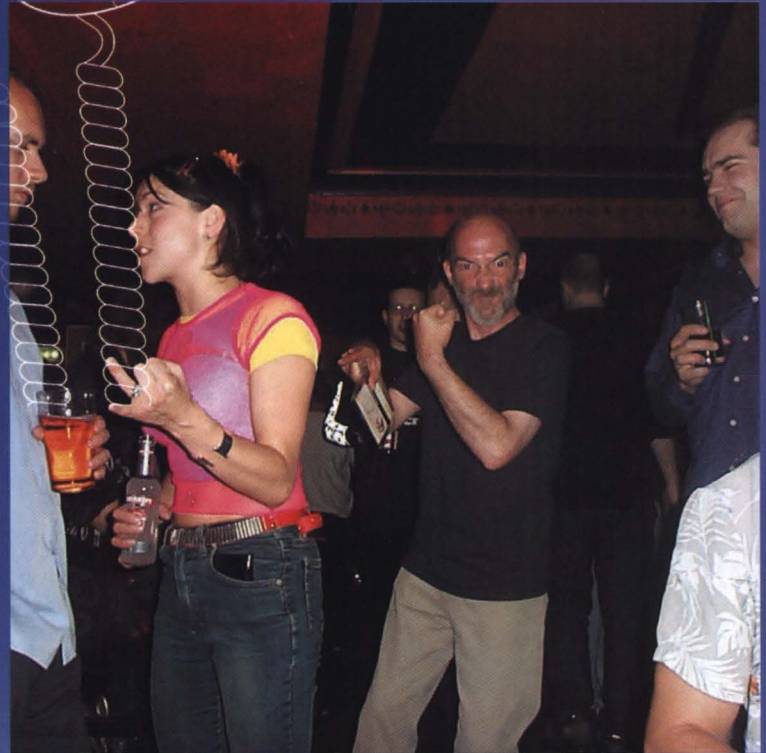
Dave Whittaker and Fred Gray get the beers in as a fan sets spies a photo op (far left), while Richard Joseph (above) sees something else that apparently raises his blood pressure

The men and their music

What the men themselves looked like back in the '80s (er, with the possible exception of one) and starting points to get a flavour of their individual styles.
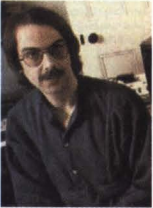
Rob Hubbard

Crazy Comets, Master Of Magic, Sanxion, The Last V8

Ben Daglish

Trap, The Last Ninja, Deflektor, Krakout

Martin Galway

Parallax, Comic Bakery, Wizball, Rambo

Tim Follin

Black Lamp, LED Storm, Agent X2, Bionic Commando

Dave Whittaker

Red Max, Glider Rider, Panther, Loopz

Fred Gray

Mutants, Enigma Force, Shadowfire, Batman The Caped Crusader

When musicians meet their public (15 years after they've produced their best-known work): the shy, retiring Rob Hubbard (glasses, top), a true fan (above left), and Martin Galway (left in photo)

Sonic's middle name? The. (Sega's PR team capitalised the 'T' in *Sonic The Hedgehog* when registering the name, and went on to use it as a marketing gimmick)

was just a haze of pubs, clubs, beer, women, Dave's flash car and his flash suit," Daglish (just about) remembers.

"When I was a game musician I used to drink white wine by the pint," recalls Gray. "My colleagues would often encourage me – until one New Year's Eve party when I drank about six pints and ended up pebble-dashing someone's bathroom. I don't remember whose house it was, but if you're out there, I'm sorry."

"It's very difficult to do anything pissed – unless you work at it, that is," claims Hubbard, looking to set the record straight about his supposedly being under the influence while programming the (badly received) music for *Geoff Capes Strongman*.

Work or play?

"It was a job, but certainly not a real job like what real people do – we were having too much fun," says Daglish. "There *was* a certain amount of pioneer feeling to it, though – at the time when there were only a few full-time computer musos in the country, it seemed very leading edge. And we were mixing with people that were pushing back the boundaries of technology and coding – sprites in the border being a famous example on the C64."

swung into action and cajoled Hubbard and Whittaker to produce piss-takes of Leitch's labour of love. Hubbard threw in the 'Eastenders' theme and 'The Power of Love', too, each worse than the last. Daglish and Crowther even came up with alternative lyrics. Musical stories have a fine tradition, but this one was surprisingly public.

(It's worth noting that Leitch took it all on the chin, overcame this early humiliation, and later became a respected composer and sound technician. He's now relieved that people didn't hold it against him.)

A quick buck

In the halcyon days of 1986, games could be very quick to produce, and by only one or two people. Creating audio could certainly be swift, and quickdraw musicians were legendary for their ability to turn jobs around in timescales that would barely cover one 'product meeting' today. In these circles, time had a different meaning.

Daglish: "Certainly there were a couple of tunes that I did overnight. As to the longest… that probably was *Trap* – it was ages before I was happy with it – a couple of weeks, at least."

Asked for his fastest turnaround, Joseph says: "*Rimrunner*. That took about half an hour."

sat at work all day staring at a blank screen. I only had the tune idea at about ten o' clock in the evening, and sat up all night in my bedroom writing it. And it sounds like it if you listen to it."

Some composers were more resourceful when it came to beating composer's block. "I did have a few dry spells where I couldn't come up with anything," says Whittaker, "so I'd usually borrow ideas from others (ie, plagiarise) and even from myself. One example was *Red Max*, which is my rip-off of Rob's *Commando* – but more of an homage, really."

An easy living from your bedroom

"I worked in the wee small hours in a tiny bedroom," says Gray. "I wrote a jazz piece once called 4am – yes, you guessed it, I wrote it at 4:00am, as was the case with most of my game music. The best part of it all was the selection of snazzy cars – Porsches and the like – that arrived outside my door. I think the neighbours thought I was a drug baron."

Though game music did not pay drug baron wages, it was a good living, as Joseph recalls: "For the first few years it just got better and better. It got to a point where I was earning money that made my successful music biz friends green with envy. Then somewhere in the mid-'90s people started arriving in the games industry straight from college and the fees plummeted. It's been a slow journey back."

It had also been an escape from the many worse ways to earn a living at the time. "I was living very cheap and making a decent living for a gigging musician, but it was never going to be enough to make real long term plans, like house buying, holidays, etc," says Hubbard. "I'd been doing lots of gigs and the change was very welcome indeed – and also extremely stimulating."

But underpinning everything was the same insecurity behind all the great rock 'n' roll stars: that it would all end as quickly as it had begun. "We all worked 16-hour days, seven days a week," says Hubbard. "After all, it was hard to turn down any work."

"I felt that anyone could come along and take my job," recalls Joseph. "It was conditioning from my music industry days. I wasn't worried about my contemporaries – they were all tied to major companies so there was no threat there – but I was always wary of newcomers. I would address the problem by hiring some of them to do conversions of my work on other formats. In that way I made allies rather than rivals."

"At the time I was glad of the hard-earned money," says Gray. "All the time I was writing for games I lived on a council estate – I never ever

Press Play On Tape have taken the C64 tribute concept to a new level. You can see their 'Comic Bakery' vid on the PPOT site

> "The best part of it all was the selection of snazzy cars – Porsches and the like – that arrived outside my door. I think the neighbours thought I was a drug baron"

To natural performers like Daglish, being a freelance game musician was a way of life. Not content with selling music, he also produced demos with long-time friend Tony Crowther for distribution on the legendary C64-only BBS Compunet. It was Daglish who was responsible for one of the most legendary tales of the time: 'The Chicken Song' story.

The extensive *Zzap!64* magazine coverage played a very large part in building hype around musicians, and this attracted wannabes, who would contact working musicians. Hubbard later bitterly regretted putting his phone number into a promotional demo that later found its way to Compunet. One of the most persistent wannabes was Barry Leitch, who started off his music career with some awe-inspiringly dreadful versions of 'The Chicken Song' and the 'EastEnders' theme. The story would have ended there if he hadn't been continually phoning composers to bother them. When Daglish heard 'The Chicken Song' he

But the king of the quick knock-off was Whittaker: "I know that I've done tunes in just a few minutes, as they were so short in those days."

Even the perfectionists could pull it out of the bag when the need arose. "There's an interesting story behind *Commando*," Hubbard recalls. "I went down to Elite's offices and started working on it late at night, and worked on it through the night. I took one listen to the original arcade version and started working on the C64 version. I think they wanted some resemblance to the arcade version, but I just did what I wanted to do. By the time everyone arrived at 8:00am I'd loaded the main tune on every C64 in the building. I got my cheque and was on a train home by 10:00am."

And, in the right mood, some notoriously pedantic composers could pull it out of the bag on occasions – even one of the true 'artistes', **Tim Follin**: "I remember composing *Black Lamp* overnight. I had to have it finished for the following day. I took my work equipment home because I'd

saw it as glamorous. John Heep at Dentons told me I had won an award once for some Spectrum music I wrote. I just said 'Oh', and carried on with what I was doing. If anyone knows what it was then I'd love to find out."

Mutton dressed as lamb

Just as Elvis should have been above singing some of the material that was put in front of him, so game music composers often found themselves writing music for titles which left something to be desired "I felt like it was mutton dressed as lamb," says Galway. "I thought some of those games should have been scrapped, they never should have been released. Don't you know Ocean gained a reputation of putting shit on to the market? Using the customers as toilet paper, they were. They thought they could put crap out and it would still sell *because they were Ocean*."

One of the defining features of the era is that the music became a very definite selling point of the games. This can be traced primarily to the huge influence of *Zzap!64*, and especially its lead reviewers – Gary Liddon, Gary Penn and Julian Rignall – who made a special point of providing music critiques for each product, and in naming, shaming, praising and interviewing individual composers. This house style continued with subsequent *Zzap!64* scribes.

"In 1986, in the depths of the shit-releasing phase, they got *Highlander* and *Miami Vice* out of the same out-of-house company. These guys had no idea what they were doing at the time in terms of product quality and were delivering games to Ocean without any sound," remembers Galway, grimly. "I had to do both games in about a week each. The tunes happened to be rather natty on each one, and the games appeared to sell well on the strength of the music. I remember our sales manager singing, 'We love you, Mart, you saved our arse this month!'"

It was a common occurrence, but pragmatism eased the pain, according to Gray: "I never had a clue what Denton's games were about – I just took the pay cheques! But my music and their games seem to work okay together."

Whittaker: "I vaguely remember some decent tunes going into some crappy budget games (from Mastertronic, etc), but, if I got paid for it, I just didn't care."

Converting the unconvertible

Thanks to the licensing explosion of the mid-'80s, composers spent a significant amount of time creating music for arcade conversions. Quite often, they had to do it without seeing the arcade cabinet, which taxed the ingenuity of programmers

and musicians alike. "The sound I was converting from was itself a conversion of the arcade cabinet, which I have never seen," says Galway about his work on *Yie Ar Kung Fu 2*. "It sounded like it was a lame conversion, too – the MSX's music only used two notes at once, for example – so I easily did a better-sounding version."

And even when musicians did have access to the original cabinet, the problems weren't over. "In most cases we had the machine to hand although I didn't like doing the conversions because I found it difficult to work out the tunes," recalls **Mark Cooksey**, who provided audio for C64 *Ghosts 'n' Goblins* and *Space Harrier*. "I didn't have perfect pitch so working out the tunes by ear was a pain." His solution was elegantly simple: ditch the original soundtrack and produce original music. *Paperboy* and *Ghosts 'n' Goblins* both featured music unique to the C64 conversions: "I found that a lot of the tunes used many channels of sound. In some cases the tunes used six- or eight-note polyphony. Therefore it was a lot easier to compose original tunes designed around music that was based on three-note polyphony."

However, some musicians just couldn't help but attempt to improve upon the original arcade version. Like Follin, for instance, who produced *Bionic Commando*'s dazzling music: "It's an arcade conversion… or let's say it started like an arcade conversion! What happened was, I started converting the title tune, and it just developed, slipped out of my grip and became something that was very different from what I had in mind at the beginning. It was quite messy."

Hubbard on *Commando*: "I took one listen to the original arcade version and started working on the C64 version. I think they wanted some resemblance to the arcade version, but I just did what I wanted to do."

Galway: "Most of the arcade games we worked on had simpler sound chips than the C64's, so I was able to beef up the music."

The end

Like Jean-Michel Jarre, Vangelis, Brian Eno or Phillip Glass, the major figures from that time had more impact than they realised when their ideas fell upon naive but imaginative teenage ears. The second wave of musicians from '88 onwards, such as Jeroen Tel, did not name legendary traditional musicians as their inspiration, they named the C64 composers they idolised.

The end of the 8bit rock 'n' roll years was painful for some, but for others it was a welcome chance to do something more adult. "I tried to get back into game music at one point but realised that things had moved on, what with the advent of games consoles and the 68000 chip. I felt I had had my chance and it was time for new blood," remembers Gray.

"I was out of it already, really," says Daglish. "I'd done a couple of years on 16 bit machines, but

> ## "In the depths of Ocean's shit-releasing phase I had to do a game a week for two weeks. And the games appeared to sell well on the strength of their music alone"

then I got into other stuff – theatre music, etc."

Joseph is actually better remembered for his 16bit work with Sensible Software than for his 8bit canon: "We were doing such cool stuff back then and everybody wanted to know us. I remember phoning someone up to introduce myself and the guy at the company told me: 'We only use the flavour of the month'. I thought he was such a twat that the last thing I was going to do was tell him that that was precisely who he was talking to."

Now there is a retro music scene to carry a torch that by commercial reality should have been extinguished long ago. "Looking back it doesn't surprise me that the fans are there but I would hardly have expected it while I was working out of a bedroom in Denham in the mid-'80s," says Joseph. "One chap said to me recently that his mum listened to The Beatles but he listened to us game musicians. That really brought it home for me."

The MOS 6581 chip (aka SID) has also been used in non-C64 projects. Fancy four of them in tandem? Some musicians do

Sam and Max started life in a comic strip drawn by creator Steve Purcell and his brother, as children. Before making the transition to computer game, a regular strip featuring the duo featured in LucasArts' internal newsletter.

In naming Zaxxon, David Rosen originally set out to give it a 'masculine' name, jotting down harsh consonants and then fitting vowels in between them

Emu Nation

Emu_Intro

Once a coding curio, emulation now has a massive, thriving community, making your computer's desktop a bewildering source of countless riches. **Retro** examines the scene

E mulation has come a long way since **Edge** first looked at it back in 1997. Back then it was still widely regarded as a fairly pointless gaming backwater, an exercise in nostalgic recreation of obsolete platforms with little real use. Things have changed. *MAME* came along and resurrected wave after wave of arcade titles and is still being developed today; big business got a sniff of intellectual properties being distributed online and started stamping its feet; and a couple of programs called *Bleem!* and *UltraHLE* showed up and caused waves by emulating the very much alive and kicking PlayStation and N64. While no one seemed too bothered about the emulation of long-dead consoles and computers, Bleem! in particular caused ructions within Sony and led to a series of legal battles.

Thanks to all this, the emulation scene today is a changed beast. Whereas five years ago you could easily find all the ROMs you wanted at a multitude of sites, the situation today is a bit trickier. The Net has long since been a niche pastime: bands of lawyers are clued up to matters online, and hosting ROMs on your Web site is a sure-fire way of attracting a flurry of cease-and-desist orders.

None of this has stopped coders from actually writing emulators. Pick a system, any system, and you're likely to be faced with a broad range of options. It has become similar to the demo scene, with hundreds of authors trying to outdo each other with the slickest, most authentic emulator they can craft.

But thanks to the ever-present lawyers, finding the games themselves is becoming increasingly troublesome. Some sites host a selection of guaranteed-safe ROMs – for long-dead platforms and with multiple disclaimers – but for the most part ROM hunting is on a level with online porn – it's there if you know where to look for it, but be prepared for a barrage of pop-up ads. Usually for porn, funnily enough.

Despite the legal issues, emulation isn't going away. On the contrary, it's going strong and providing a vital service; in a way the coders and ROM sites are curators of a vast, interactive museum of gaming. Through emulation you can revive games that you simply don't stand a chance of ever playing in their original physical form, games that would otherwise have been lost forever. Yes, emulation can be about playing old games for free. But it's also about history.

Here, **Retro** looks at today's leading emus.
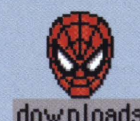
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Systems_1

Coin-ops

After all these years there's still only one choice for arcade emulation, and that's *MAME*. There are other emulators around for specific and later machines that'll probably do a better job than this gargantuan jack of all trades, but if there's an arcade machine from the '80s or early '90s that isn't supported by MAME then you're probably imagining it. The latest count shows it to emulate around 3,500 games. What more could you want? A proper front end, possibly. Your basic *MAME* package requires you to talk to it through arcane command-line instructions, so unless there's only a handful of titles you want to play, you're going to need to download a front end for it.

Space Harrier

Bomb Jack

Blasteroids

NES

Nintendo first made its mark with Game & Watch and then headed into the arcades with *Donkey Kong*, but it was the NES that pushed the company into the premier league. There are a good few NES emulators doing the rounds, but your best bet is likely to be *FCE Ultra*. It's an open-source project with a list of contributors as long as your arm, and it performs all the tricks you'd expect. It's compatible with most games, enables you to play networked multiplayer, and there's even limited lightgun support. The real bonus, though – at least for the more cack-handed among you – is *FCE Ultra*'s built-in Game Genie emulation, enabling you to cheat your way to victory.

The Legend Of Zelda

Metroid

Super Mario Bros 2

Master System

Sega's first worldwide console at least looked nicer than Nintendo's box and it had a few more tricks up its sleeve, such as the support of 3D glasses. But that's about the extent of the Master System's advantage, and while Sega had *Wonder Boy* and *Alex Kidd*, Nintendo had Mario. Game over. You'll still find plenty of people willing to swear blind that the Master System ruled, however, and one of them's Omar Cornut, author of *Meka*. It's a Master System emulator, but that's not enough for Cornut, who's also built in emulation of obscure Sega systems that never made it over here – the MSX-based Sega Game 1000, for example. And for reasons best known to himself he's also built in a Coleco Vision emulator. This is heavy-duty stuff, but *Meka*'s fairly unflappable, with a solid front end. The only downside is that you might find the actual emulation a little bit slow on older PCs.

Psycho Fox

Wonder Boy III: The Dragon's Trap

R-Type

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ZipIt   QuickTime   Drop•Rename   QuickTime Player   StuffIt Expander™   Niiio@   downloads

Sega's Mega Drive existed in several unusual Japanese hardware variations, including 1991's Terradrive (an IBM PC and Mega Drive in one) and the 1994 Aiwa CSD-GM1 (a portable CD stereo with a built-in Mega Drive)

EDGE Laser 4050N 2

Mac HD

EMS02.emu.open_fin

Edge 2003 schedule.PDF

Systems_2

Mega Drive

Nintendo owned the 8bit console market, but Sega just about got it right the second time round. The Mega Drive had the advantage of appearing first, but like the NES its success was largely thanks to a marketable character. *Sonic The Hedgehog* made the Mega Drive an essential for many, but the cracks soon appeared. First came the Mega CD, which few cared about, and then Sega tried to extend the Mega Drive's life with the disastrous 32X. *Genecyst*'s still a reasonable emulator, but for **Retro**'s money it's been supplanted by *Gens*, which does vanilla Mega Drive emulation as well as Mega CD and 32X emulation with a fairly high success rate. The *Gens* people reckon it runs 93% of games perfectly, and running in full-screen mode it uses nifty filtering to stop the action looking blocky on your monitor.
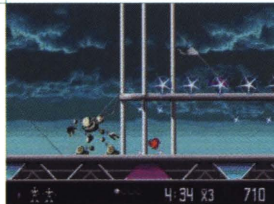
Vectorman

Sonic The Hedgehog

Thunderforce III

SNES

Hitting the market long after the Mega Drive, the SNES – though technically superior with some dazzling effects achieved through Mode 7, and later thanks to the Super FX chip – in many respects fell in at second place behind Sega. In emulation terms right now there are two front runners for the SNES: *SNES9X* was a long-term favourite but hasn't been updated since late 2001, and a few compatibility gaps exist. On the other hand, *ZSNES* is still updated and, despite a fuzzy front end (which translates to a not-unpleasant filtered look in-game), appears to have pulled ahead compatibility-wise with only a small and obscure list of games known not to work. As a bonus, it also supports Game Genie, Pro Action Replay and GoldFinger codes.

PilotWings

Super Mario World

Chrono Trigger

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PC Engine

Cult classic rather than best-seller, NEC's PC Engine was an oddball machine that attracted a good many admirers thanks to a combination of 8- and 16bit processing. The diminutive console's graphics approached arcade quality in many instances, making it the perfect home for a seemingly endless procession of shooters. In all, over 700 PC Engine titles were released, but the format failed to ignite mainstream tastes. In emulation terms it has a similarly low profile – the best you'll find is *MagicEngine*. However, in an almost unprecedented approach to emulation *Magic Engine* is not free; in its unregistered state it only works for five minutes at a time.

Bomberman '94

Bonk's Revenge

Alien Crush

Neo-Geo Pocket Color

The handheld that should have been king? Perhaps. When launched, the Neo-Geo Pocket Color looked likely to take over the pocket market from the ageing Game Boy and its young sibling, the Game Boy Color. The NGPC was a brilliant handheld with a decent-sized TFT screen and a genuinely great game line-up. It looked like such a sure-fire hit that Sega deigned it suitable for a version of *Sonic*. Two emulators – *NeoPocott* and *NeoPop* – now lead the field, with the latter coming off best, offering near-perfect emulation and supporting multiplayer through TCP-IP. Keep an eye out for *MHE*, however – the *Multi Handheld Emulator* is currently in development and, if it lives up to expectations, will emulate just about every handheld game console.

Card Fighters Clash

Crush Roller

Metal Slug

Jaguar

One of the most ill-fated consoles ever devised, the Jaguar was Atari's last chance, and the company blew it rather well despite having a powerful piece of kit. It's memorable for three main reasons: a distinctive-looking bundled game in *Cybermorph*, a strange and unwieldy joypad that smacked of the Intellivision's controller, and *Tempest 2000*. Until recently attempts to emulate it haven't gone well – RealityMan, developer of the *UltraHLE N64* emulator, for example, has been working on one with little apparent success. But in the last couple of months *Project Tempest* has appeared and it's doing the business. Unsurprisingly its main aim seems to be to run a damn good game of *Tempest 2000*, and original author Jeff Minter has already given its performance in that area a big thumbs up. Compatibility with other titles is being worked on – *Aliens Vs Predator* is next on the list. But Jaguar emulation doesn't come cheap: you'll need a top-end PC in order to get any reasonable frame rate out of *Project Tempest*. It's an emu well worth keeping an eye on, though.

Doom

Aliens Vs Predator

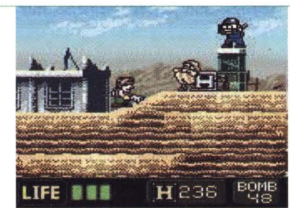Tempest 2000

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EDGE Laser 4050N 2   ZipIt   Nisus®   wedge   indexed   Edge flatties/job bags   stuff

HD

MAME: U.N. Squadron (US)

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BullpupII   30

Explorer

Boo Too

02.emu

Edge flatties/job bags

Further info

The obvious legal bit

Legality issues clearly surround emulators, although it remains a quite messy grey area. In this article **Retro** has concentrated purely on the emulation of dead systems, which seems to be a trouble-free area. It's when you emulate a console that's still alive and kicking where legal problems enter the fray (take a look at the *Bleem!*/Sony fiasco to see how complicated things can get).

Even if the console manufacturer doesn't have a legal leg to stand on, it can still try to bankrupt emu developers by dragging them through the courts. ROMs, of course, are another matter altogether. Nothing's changed in this department: copyright still applies and you're still, technically, breaking the law if you download and keep a 15-year-old Master System game that you don't physically own. So you won't find any links to ROM sites around these parts, and naturally **Retro** cannot condone the downloading of illegal ROMs.

Doing it 'properly'

If you're serious about arcade emulation, what are you doing running *MAME* on your PC and playing all those classics with a keyboard or even a joypad? You might be able to run *Robotron 2084* on your home machine, but you're not really playing it unless you're wrestling with two joysticks and running the risk of a heavy cabinet toppling forward and crushing you to death. You *could* buy the real thing – or you could just go the whole emulation hog and buy some proper hardware. Digital Tables (www.digitaltables.co.uk) will build you an authentic cocktail setup, filled with a PC, MAME and more games than you could ever hope to play, for just under £3,000. If that's too pricey, the company can supply the shell so that you can fill it yourself. If you'd rather do it yourself, take a look at Ultimarc (www.ultimarc.com), where you can find all the parts and plans for everything from making a proper arcade stick through to building a full-sized arcade cabinet. There are over 500 projects listed, so you're more than likely to be able to find something to suit the skills and budget available.

Links

MAME: www.mame.net/
MagicEngine: http://magicengine.com/uk_index.html
NeoPop: www.emuxhaven.net/~neopop/
Project Tempest: pt.emuunlim.com/
Meka: www.smspower.org/meka/
Gens: gens.consolemul.com/
FCE Ultra: fceultra.sourceforge.net/
ZSNES: www.zsnes.com/

100%   Page : 7

EMS02 SENT   EMS02 PAGES   EMS02 IMAGES   Adobe Photoshop 5.5 alias   QuarkXPress

The making of…

In 1985, the face of game journalism changed thanks to one magazine. **Retro** caught up with the people behind the pages in order find out how they did it

Has the world of computer and videogaming ever had its own celebrities? Well, there was Dominik Diamond, of course. Oh, and Violet Berlin. Plus, at a stretch, Big Boy Barry would probably be remembered by some impressionable young game-geeks in the making. But these names hail come from a relatively modern era. Before videogames made it on to mainstream television shows, their followers had only the press from which to pluck their idols.

Open up just about every videogame magazine in existence today and you'll come across a page featuring photographs of staff members pulling faces for the camera in an attempt to humanise the content that follows. 'This month', says Johnny Whippersnapper in his little bit, 'I've been mostly playing *Ratchet & Clank*. It's a game full of nuts, you see – and I'm absolutely nuts about it!'

If you want to lay the blame for this anywhere, look back at *Zzap!64*, a trailblazing publication dedicated to the Commodore 64 launched in 1985. The combined efforts of its big-haired staffers, with their even bigger egos, played an integral part in shaping how the specialist press catered for a young, often quite dumb, and always never anything less then eager audience.

Retro caught up with five of the key players who made it a must-read during the mid-'80s. Each was interviewed separately, which may account for some differing testimonies…

< 085 >

THEN AND NOW

What have the key faces from *Zzap!64*'s golden era been doing since back then?

Gary Penn

Penn worked at DMA for some years. He's now designing at Denki (see *Denki Blocks*).

Julian Rignall

Rignall recently left IGN. He now works for the online division of US retail giant Walmart.

Ciaran Brennan

Brennan's a sleeker customer nowadays. He's a big noise at Bastion, a PR specialist.

Steve Jarratt

The only one here to still be involved in mags, Jarratt works at Future Publishing.

Gary Liddon

Liddon went back to coding after *Zzap!64*. He's now COO at UK developer Climax.

What are your favourite memories?

Back then was all so new – and it was all ours. It was time of rampant hormones and the emergence of a new entertainment industry. Games for us were rock 'n' roll. We were usually doing exactly what we wanted, when we wanted – and all we did was work, play, get wasted and work and play some more. There was always something to learn first-hand. Sleep didn't enter into it. Fuck, I wish I could remember more than disparate fragments.

As much as I enjoyed all the attention from publishers and players and working with some passionate and talented people, I'd say I most enjoyed the sense of freedom. We were left alone as long as we delivered the goods on time. It was a special time – the right people doing the right thing with the right stuff in the right place at the right time for the right people.

Rushing in to work at *Zzap!64* every day (and even the weekend) so that I could go through the mail and see what new games had come in that morning. It was a most exciting time for the industry back then. Thanks to minimal development costs, there were tons of new releases each week, and because the acquisition and manufacturing costs were so low, many companies/individuals were not scared to try out new ideas. Sure, there was a ton of crap released during that period, but also many amazing games (for their time) that broke new grounds in terms of concepts, gameplay and technology. Each month, there seemed to be some new 'big thing' that we could wet our pants over. My absolute fondest memories are just playing games morning, noon and night and writing about them. As a hardcore gamer, it was a dream come true.

I remember the tremendous satisfaction of actually getting a magazine finished and off to the printers – I suspect that hasn't changed much – and having fun at the consumer shows of the day – the Personal Computer World Show in Olympia was a particular favourite. My job before I moved to England had been working as a backroom boy in the local newspaper in my home town (just outside Dublin), so I was very impressed with all of the new and exciting people that I met through the magazine. That's what I enjoyed most – the people.

Just being in a vibrant, chaotic office, where pretty much anything went and the more creative you were, the more fun you had. There was office crap everywhere and it stank of food and smoke, but it was just so cool – kind of like how they portray manic newspaper offices in those old black-and-white movies.

It's all a bit of blur. The whole thing was a dream come true for me. Meeting all of the 'star programmers' of the day – Archer Maclean, Jeff Minter, Andrew Braybrook and Tony Crowther – was definitely a kick These names had almost godlike status in those days and I was (am still am) a fanboy at heart.

You had a lot of influence back then. How did you perceive your role in the industry?

I never gave my role in the industry any thought. If I'd realised how I was perceived I'd have been an even bigger dick. I just accepted the perpetual daydream as reality. I had a burgeoning moral agenda – we all did at Newsfield. We'd do things like only reviewed finished games in boxes, just like the player bought – to keep us on the same level, to keep us grounded.

We were enthusiastic, knowledgeable, arrogant, opinionated, hardcore players with a platform. We had so much power. We didn't realise how much. Well, I guess we knew but we didn't really appreciate it. We could make or break sales – smaller companies even.

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Zzap!64 once ran its own 'making of' feature, with a selection of dodgy mono photographs

▼

INSIDE ZZAP! TOWERS

perpetual buzz – always something in the air.

The industry was a village. Everyone knew everyone else and every aspect of their business – especially when it came to who was fucking whom. The trade magazine *CTW* was like a local newspaper. The shows were great – like local fetes or enormous family get-togethers with development people and publishers and, more importantly, players converging in a common space and with a common interest.

I believe the overall feeling was better. People didn't have ulterior motives or hidden agendas (well, apart from a few of the 'wider' PR people).

I guess it was a fairly young and naive industry, but it was very enjoyable. It was great being on one of only two serious C64 mags – especially when the other one was rubbish.

We were the great and the good, passing judgement on games and saving the reader money by preventing them from buying the crap ones. I never really considered it much beyond that, really.

I've always felt that, as reviewers, we were the bridge between the consumers and the manufacturers. A group of hardcore gamers whose recommendations would hopefully help the gaming public spend their money on games that offered a great gaming experience (and thus made them want to go out and buy more games), rather than buying a crappy one that would be a waste of their cash (and thus put them off buying other games). On a personal note, all I ever wanted to do was share my excitement of playing great games – something that's still with me 17 years later.

I remember the first time I really began to understand what kind of influence we had. We'd reviewed a trio of absolutely awful games (*Gertie Goose* was one) from a fledgling software company whose name escapes me, and we had totally trashed them in ways that you just can't get away with these days. A few days after the magazine hit the newsstands, the poor bastard who owned the company called us up to yell at us. He basically said that

because of the bad reviews, no distributor wanted to touch his games with a ten-foot pole, and his company was out of business. I felt really bad for him, but what are you gonna do? They were unbelievably crap games, and it

was our duty to tell our readership that they weren't worth buying. I've had numerous situations like that over the years where people have called up to yell at me for giving a bad review. But at the end of the day, if you're stupid enough to release a shit game, then you should be the one to lose out, not the consumer.

What was better back then? Or was everything worse?

It was pretty much the same but different. Much of now is then only more distorted or diluted – like cigarettes, sadly. The industry was far less professional then – and it's not exactly slick today – but more entertaining for that. Everyone seemed to feel they could make a difference. There was a

"BECAUSE OF OUR REVIEWS, NO ONE WANTED TO TOUCH HIS GAMES, AND HIS COMPANY WENT OUT OF BUSINESS"

There are positives and negatives to every period in time. Things weren't better or worse back then – just different. One big positive, though, was that because software development was *much* cheaper back then, companies weren't afraid to take risks. This resulted in a lot more creative and original games than we see today. A lot of games were the personal expression of gamers-turned-programmers, rather than simply being endless iterations of licenses/franchises that revolve around a huge marketing budget. That's not to say that great games aren't made today – to be honest, I can't play old games for five minutes without getting bored – it's just that 'risky' and 'original' ideas are few and far between these days, and I think that's bad for the industry.

Working with small motivated teams where you have a lot of autonomy to do what you like is an awesome experience. That's what it was like at Newsfield and the general principle is true whether you're making a magazines or a game. We had a lot of fun and I think that came through in the work we did. It was a little rough round the edges but the sheer enthusiasm of the staff shone out in every issue.

How did you produce the magazine?

In 1985 most of the magazine publishing world was using clunky old typewriters to produce double-spaced words on A4 paper. A red ballpoint was the official tool for editing the words and writing special codes in the margins to denote what was to be done

and eventually Amstrad PCWs to write, edit and 'mark up' copy. The basic typesetting language was a distant cousin of HTML. A local firm in Ludlow took floppy disks from us and converted the files to pass through a glorified printer to produce the type for layout purposes.

Both layout and film were produced in-house and that gave us a much tighter control over how the magazine was prepared. 'Spot' colour was easily added to the final film because the production team could cut and incorporate areas of acetate.

Oliver Frey was invaluable, incredible. Most of his illustration work was off the cuff. He'd just do it. There were always awkward spaces to fill and he'd knock up suitable imagery in minutes.

All screenshots were taken with a large format film camera and processed by our in-house photographer. We took great pride in our screenshots and spent time making sure we got the best possible pictures. That was

called Cameron, who took the games into a dark room and did something mystical with them which I wasn't allowed to see – even when I had reached the heady heights of editorship. I believe that he turned the lights out, pointed a camera at the monitor screen and pressed the shutter button a few times.

Fortunately, Newsfield was pretty much state of the art in those days. We all wrote on Amstrad PCWs, and the text was transferred over onto an Apricot (the editor's computer), which had an orange-on-black VDU. Very cool. The editor would then add embedded commands to tell the typesetting machine how to output galleys. One of the production minions would leg it down town to the typesetters who would then output galleys of hi-res black text on white paper. This was then cut and pasted on to boards in the art department before being shot to film.

Screenshots were taken using a camera propped up in front of a monitor in a darkened room. Games without a pause mode always looked crap and blurry. However, if you got it right, you could get really nice, very hi-res shots which you could blow up quite large. We had a photographer whose sole job was screenshotting. I suspect this is why he was a bit bonkers.

"WORDS WERE OUTPUTTED IN STRIPS. COLUMNS WERE CUT UP AND STUCK DOWN WITH GLUE. THIS IS TRUE. THIS HAPPENED IN THE 1980s, NOT THE 1880s"

to the text. The 'marked up' copy was sent to another company to be retyped into a glorified printer to create 'type' in a paper form suitable for layout on a page.

A scalpel and a glue spray were used to cut and paste the type on sheets to create a page layout including placeholder picture and illustration positions. Pictures were prepared separately through other companies. Notes on how the printed page should look were marked on the layouts before they were sent to yet another company and transferred to a negative and then positive film suitable for printing. It was a long-winded, mostly archaic process.

Newsfield were more forward thinking and practised, what was at the time, a flexible, powerful, interesting and exciting process. We used PCs running a Borland text editor plus some swanky portable word processing units

especially important with so many black-and-white pages to fill.

The – ahem – technology that we used was crude, to say the least. The words were mostly written on Amstrad PCW word processors (although the editors of each magazine did have a DOS PC to underline their status) and the words were outputted to strips of bromide at a local typesetters. These columns were then cut up and stuck down on to paper pages with glue. This is true. This happened in the 1980s, not the 1880s. I can remember coming close to deadline and working with the designers to slice out individual words to make paragraphs fit – we were poor, but we were happy. As for photographs, we had a resident photographer

Pretty basic is the quick answer. Fancy schmancy screen grabbing equipment was the sort of thing only NASA would have in those days. Screenshots were taken with a standard 35mm SLR on a tripod about two feet away from a monitor with cameraman, camera and monitor all covered in a big black blanket. Nice.

Copy was written on Amstrad word processors in plain text. To change font styles you had to embed cryptic commands in square brackets throughout the text. Your file would then go off to a local printers who after a couple of days would send back printed-out versions of your file and in my case usually with completely the wrong font

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styles as I'd mucked it up. D'oh!

Layout was a purely physical exercise from then on using real cut and paste. There were lots of cartoony drawings in the borders – these were hand drawn directly onto the final laid-out page, usually by Gary Penn. Every now and again the editorial staff would even do a little bit of layout.

What were the biggest challenges?

Nothing ever seemed too big, too outrageously challenging. Deadlines were always tight but that was the norm. I was like a big dumb dog. I just got on with it. I did what I wanted – what I thought I wanted, what I thought others wanted. I'd often be working through the night, sometimes playing, sometimes just to get things done and sometimes for the machismo. The worst stint I remember was working straight through two nights running to be woken up the morning after the third night, slumped on a beeping PC keyboard and a screen full of shit. What a twat.

Just the workload, really, which was overcome by working hard, late nights and weekends. I didn't much care as it was just a great thing to be involved in. Bear in mind that just a few months previously I'd been working in a dingy chemical plant in the Midlands, earning a pittance; now I was in a (relatively) pleasant office, working in the media, on double the wages. My mates were dead jealous.

I've had all sorts of times when I've had to talk to pissed-off manufacturers who were threatening to pull ads or sue us because we'd given a bad review that they didn't agree with. You wouldn't think that diplomacy was a fundamental requirement of being a successful games magazine editor, but it is. At least, it is if you want to successfully walk that very fine line between being able to say what you think while at the same time ensuring your magazine generates the ad revenue to keep it in business.

Was it ever very rock 'n' roll?

Jesus, as if I'd remember. All I can recall is that most of the time I pretty much did what the fuck I liked – and that tended to coincide with producing a magazine. I did all the predictable hedonistic things you do shortly after you leave home – sex, drink, drugs (mostly a lot of puff) and computer and video games – sometimes to excess but nothing I'd consider rock 'n' roll.

It was great being recognised in the street or in pubs or at shows and signing autographs and posing for photographs. We were sent fan mail, hate mail, drawings… There were groupies to make us feel more like real stars – but there were never any cocaine-fuelled all-night orgies culminating in trashed hotel rooms.

It amazes me that I still meet people – usually in the strangest of places – who recognise me from their youth and Zzap!64 and greet me with an enthused familiarity I appreciate but can't reciprocate.

None of it was very rock 'n' roll. Although I do remember a few weekends when the gaming stars of the day (Sensible, etc) arrived for no better reason than to get drunk and smoke weed. Nice.

Groupies, drunken parties with people puking out of windows and getting caught urinating in public, and other such malarkey happened at Newsfield. But that wasn't really rock 'n' roll. That was us being young and stupid.

Penn and Rignall were pretty rock 'n' roll, at least in dress sense. Penn went a bit postal with a knife one night when his girlfriend left him, I recall. He also shaved his eyebrows off and also ate a tin of dogfood once, but that was much later. It was hard to be rock 'n' roll in Ludlow, Shropshire. You could get drunk down The Bull, I suppose.

I remember me, Julian Rignall and Gary Penn being mobbed by about 50 prepubescent kids at a PCW show, all after our autograph. I suppose that's only rock and roll in a Gary Glitter way, though.

We actually had a Zzap!64 groupie. Is that rock and roll enough for you? I think Julian Rignall's beautifully coifed hair (a sort of Limahl-meets-Nick Taylor affair) was the initial focus of her attention.

This sounds a lot more exciting than it actually was, and in truth it's a messy and horrible story that ended up with a few people having a visit to the local genito-urinary clinic. I probably shouldn't have said even that so I'll shut up now.

Was there corruption back then?

It was no more or less shallow than it is today. At Newsfield it fluctuated between publishers wanting to suck us off and cut us off. There was a lot of friction but we didn't give a fuck what anyone outside our office thought. Except for Roger Bennett who was our advertising manager at the time. He'd shit himself over some of the reviews and politely ask if we could be a little more considerate but that just made us dig our heels in.

Tips played an enormous part in any mag's success in the '80s. Zzap!64's POKEs led the way

The first game commercially available for the PC platform was a Microsoft title. Its Adventure was included with the initial set of applications sold for the system in 1981

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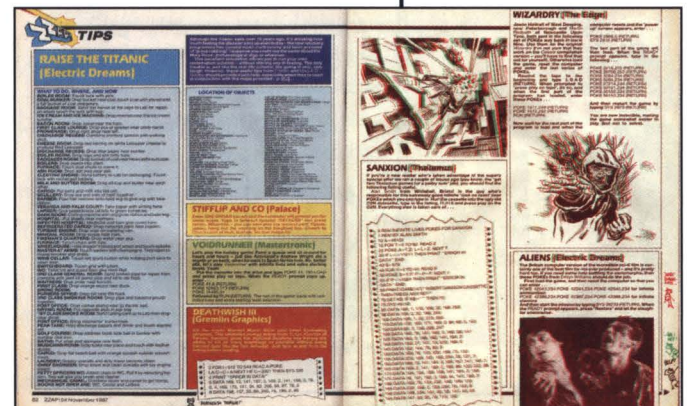
Colour was used on big reviews. Screenshots were taken by a photographer under a blanket

The bigger advertisers were always threatening to withdraw advertising because of our comments and ratings. That was like blood to the hounds. We'd go out of our way to buy games for review if publishers wouldn't supply them.

There were plenty of people in and out of the industry who thought the big publishers owned us. One minute it was supposed to be Activision, then US Gold, then Ocean, then Firebird, then… As if. We thought we were so hard that we were above being bought. I don't remember anyone ever offering me a bribe. If there was any corruption I was too arrogant to see it.

We were chums with everyone – well, everyone we thought worthy of coverage. We hardly ever needed to leave Ludlow. The industry came to us. We were more interested in the people who made the games so we treated the developers like artists – as if we were all in a bigger, more established entertainment industry. We made the people behind the 'product' accessible when other magazines seemed to stop at the publisher's feet.

It was all very cosy, really. I don't think there was much corruption (certainly none that I saw), but I do think that people on both sides of the fence were more naive or innocent than they are today. We were making it up as we went along, really.

Those kinds of rumours have dogged the magazine industry since the very first videogame mags came along, and still continue to circulate about today's publications. I mean, you guys at the **Edge** take bribes, right? You must, 'cos you sometimes write good reviews of games that don't deserve it, so you *must* be taking bribes? Right? Heh heh. Here's the simple fact of the matter: whenever someone buys a game that you recommended and they hate, that results in one pissed-off reader and a serious dent in your credibility. If that happens a couple of times, they'll simply stop buying your magazine – and usually tell all their friends about it too. If your magazine's reviews are not credible, people won't buy your magazine – end of story. So you have to be honest and say what you think. I have and always will happily take any number of freebie goodies, press junkets and T-shirts or whatever. But when it comes to a review, you *have* to be honest if you're going to keep your readership intact and your credibility unblemished. Readers make or break you, so your first duty is always to them if you want to be successful as a magazine reviewer.

In terms of publisher relationships, it was the same then as it is now. If you write a bad review of a game a publisher is betting bank on, you'll take shit from them. If you write a good one, they love you. The only big difference these days is that there's a lot more money riding on a lot less games. Oh, and there are a lot more people working in the industry who know fuck all about games than there used to be. But hey. That's marketing for you.

I've seen and heard of much more corruption in the last few years than I ever did during my time at Newsfield. In all my time on games mags I have *never* been offered a bribe – which is a shame, because I would probably have taken it.

There were gargantuan amounts of booze chucked at us as at various shows and events but to be honest that didn't affect reviewing policy very much. Towards the end of my tenure as a journalist the amount of freebies and jollys being chucked at reviewers was definitely on an upward swing. That was a stupid time to make a career switch, then.

I remember a whole clutch of UK reviewers being whisked away by one particular publisher to Bangkok for a week of unbridled hedonism. A month later this was followed by some jaw-droppingly excellent reviews despite the game still having another six months of development to run – and it being, er… shit. Reviews during the early-'90s seem to be particularly PR-junket driven and I know some journalists from those times who'd basically score the meal they'd been bought by the publisher's PR rep rather than the game itself.

The only payola I ever got were some *Monty On The Run* tracksuit bottoms.

How did the team work together? Was it always harmonious?

It was seldom harmonious. Everyone got on like a big family. Almost everyone worked and played together. The relationships varied from love to hate, honest to deceitful – any extreme you care to name. There were the usual cliques and everyone usually bitched about everyone else. Sometimes paranoia ran rampant. There always seemed to be someone who had too close a relationship with The Management.

By the time *Zzap!64* and *Crash* were at their peak the relationships between most of the staff were beyond breaking point. There were more factions than ever before, more rumours, whining, bitching, backstabbing – more than most of us could bear. The company's tribal strength had gone beyond weakness and become a sickness. In the end I was feeling tired, bored, angry and puerile, so I quit. It was like leaving an adoptive family. I wasn't gone for

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long, though – a few weeks later I came back to launch *The Games Machine* with Graeme Kidd. That lasted one glorious issue. We were sacked and Newsfield went on to… I don't know what, but they managed to keep the ball rolling for years.

I think Penn and Rignall had their fallouts because they were both so full of attitude and arrogance. Most of the time I was just having a ball… You don't get called a 'chummy Brummie' for nothing.

We were a bunch of teenagers who had never had a job before, and we were all learning how to grow up and be professionals and work with one another. Sure, we had some stupid spats and silly politics, but despite the occasional bit of personal nonsense, it was all about the magazine, and we all shared a very common vision about what we needed to do to make the magazine great. If we didn't, we certainly wouldn't be here talking about it today.

We worked pretty well together. I used to piss about too much and I think that caused some friction at times. I don't think Oli Frey liked me very much and this manifested itself in the issue 14 cover – look at that gut! I'm a bit of a porker now but Oli definitely piled the pounds on my mid-regions in that cover. That was no doubt in return for some beer-fuelled minor spat down the boozer.

What were working conditions like?

They were… variable. It didn't matter. We lived to work. The pay was poor but we weren't exactly experienced and, anyway, it was enough to live on – enough to buy beer, fags and so on – and we were usually too busy or stoned to care.

EMAP had a more professional front, which I couldn't get to grips with. I was expected to behave – not to be my juvenile self. Somehow a compromise evolved and lasted for over two years but it wasn't enough. In the end I was feeling tired, bored, angry and puerile so I quit with a resignation letter that secretly spelled out 'FUCK YOU' down the side. What a prick. I clearly had a lot of issues to work out at the time.

It was smoky and utterly chaotic. There was stuff *everywhere*. Fucking hundreds of tapes and discs stacked up on any vaguely horizontal surface. It was great!

It was shit, really. The offices did whiff a bit and were a mess. To be honest that was probably in a lot of ways down to me and Julian – we worked long hours and exceptionally hard. You can see that by the sheer quantity of text in those old mags. I'd say there's about two to three times the editorial content you'd find in any of the modern mags. To be fair, the production values and prose quality was more like a fanzine back then, but I think that was part of its charm.

It were the olden days when you could get away with paying teenagers a pittance to slave away for 12 hours a day in a dark, smoky sweatshop. Actually, it was a load of fun. Great office environment, evil, sick humour, gossip and jokes, and a bunch of like-minded people

loving what they did. I don't want to sound like some sappy, misty-eyed twat, but it was a lot of fun, and times I remember very fondly, good times and bad.

What did you think of your readership?

They were us. We were them. We never saw any difference. We straddled the divide between the industry

"THE STUFF THE READERS SENT IN WAS NEARLY ALWAYS FUNNIER THAN ANYTHING WE COULD COME UP WITH, SO WE'D JUST NICK THEIR IDEAS AND TAKE THE CREDIT"

and the players. We were at the heart of a scene with the notion of a brave new medium unfolding. We had an active readership, adulation… *Zzap!64* and *Crash* readers were so devoted to the magazines. The magazines and the bulk of the readership were so in tune.

I have no idea. I couldn't care less: I was playing games and reviewing them and trying to generate cohesive copy. Worrying about readers' needs was the editor's job.

I think they were and are still excellent. I have to say that as I was a huge *Zzap!64* fan before I even began working on the magazine. The stuff that the readers sent in was nearly always funnier that anything we could come up with, so we'd just nick their ideas and take all the credit. Hoorah!
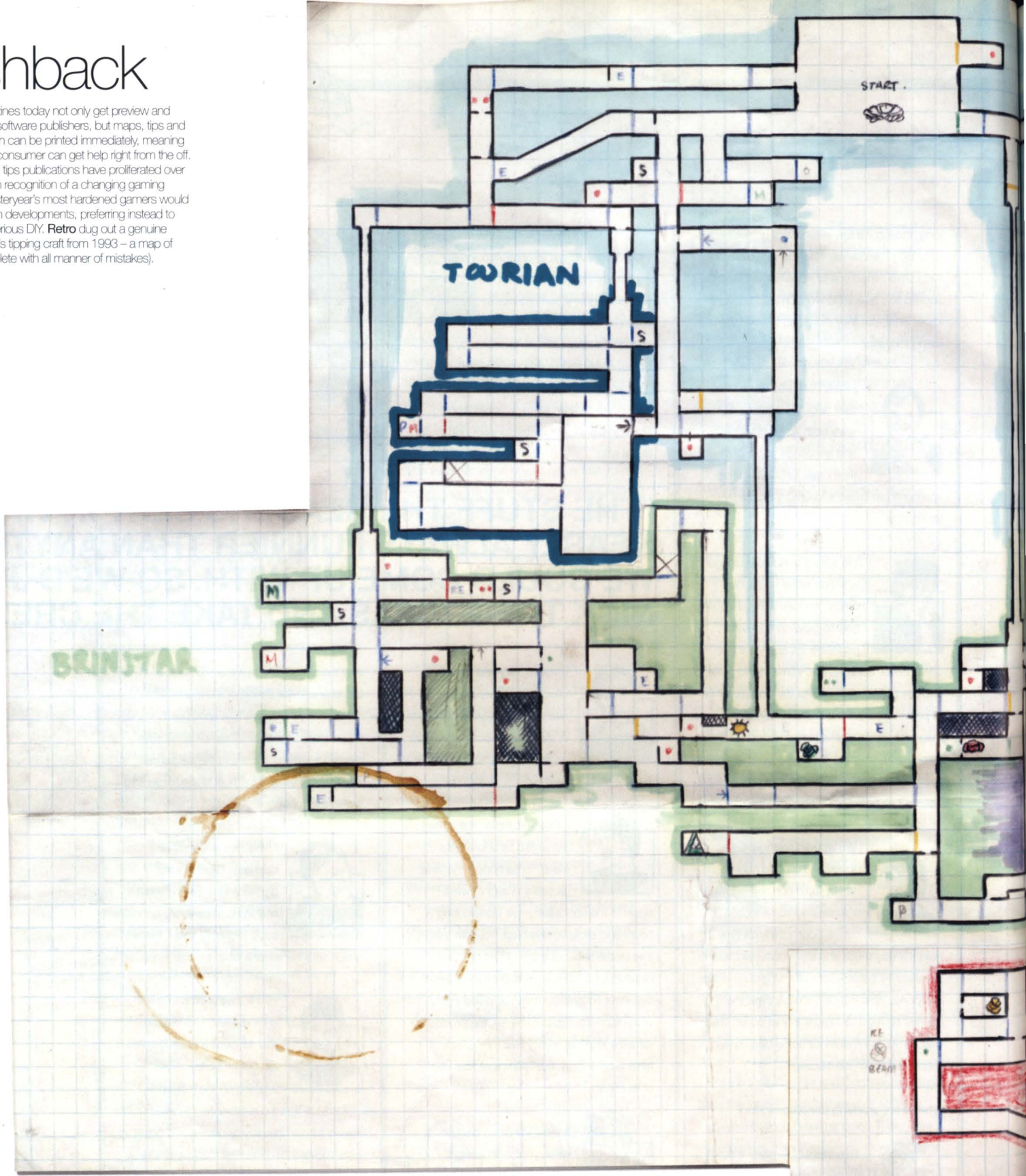
And quite a few of them are hardcore fans for life. I still get mail on a weekly basis along the lines of 'didn't you used to be Gary Liddon from *Zzap'64*?' This is 16 years after
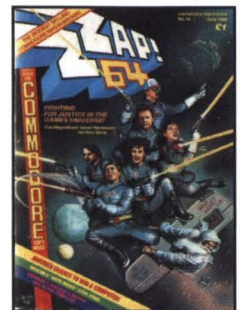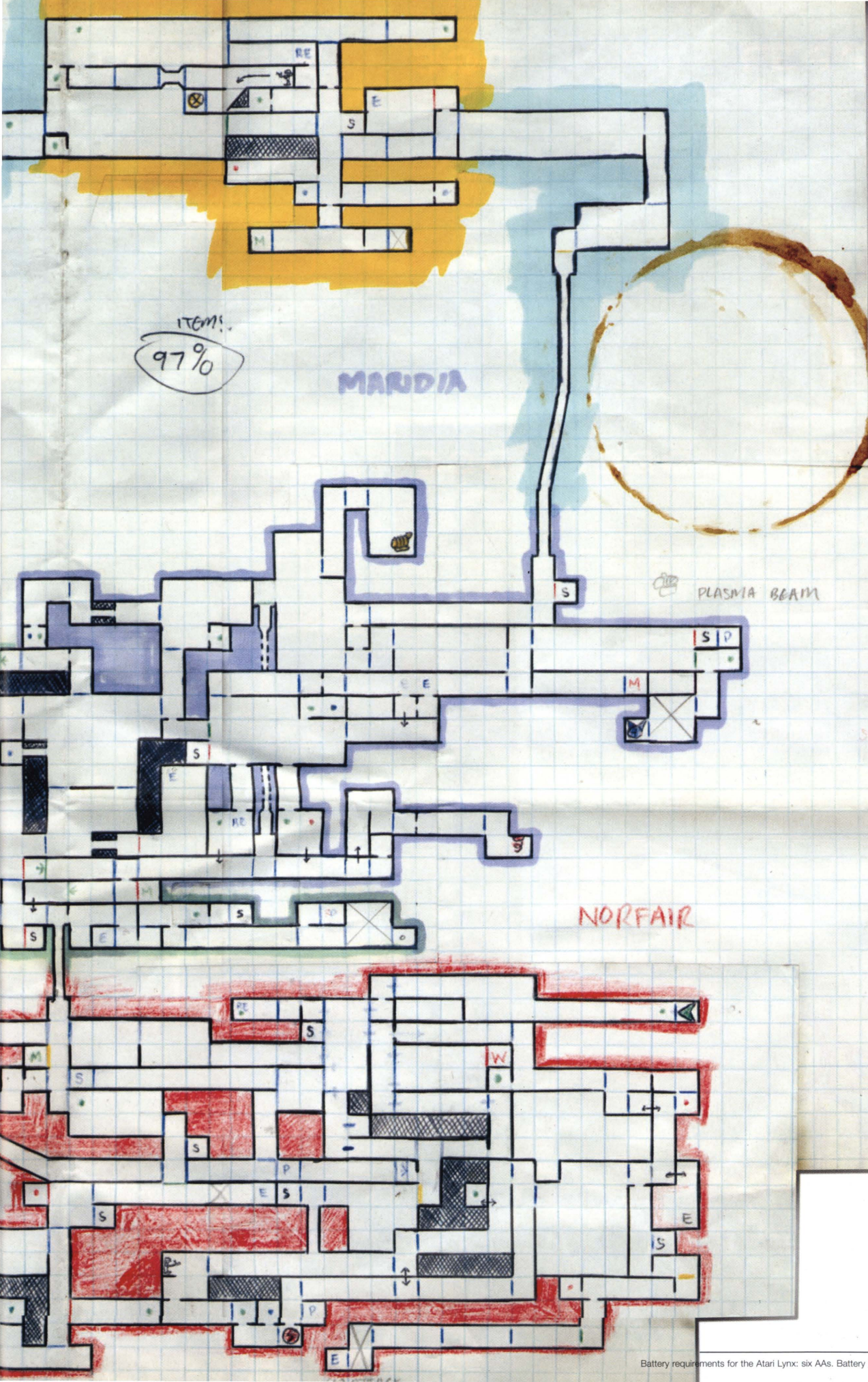
Flashback

Videogame magazines today not only get preview and review code from software publishers, but maps, tips and solutions too, which can be printed immediately, meaning that the frustrated consumer can get help right from the off. (Indeed, dedicated tips publications have proliferated over the last ten years in recognition of a changing gaming demographic.) Yesteryear's most hardened gamers would surely scoff at such developments, preferring instead to indulge in some serious DIY. **Retro** dug out a genuine example of the fan's tipping craft from 1993 – a map of *Super Metroid* (replete with all manner of mistakes).

The rarest Game & Watch is the YM-901S, a variant of the standard *Super Mario Bros* LCD game in a limited-edition case. Only 10,000 were made, as prizes for a competition; units have since sold at auction for over $2,000 each
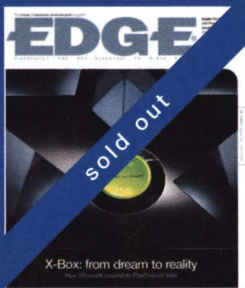
ITEMS:
97%

MARIDIA

PLASMA BEAM

NORFAIR

🔱 = GRAPING HOOK
⊗ = GRAVITY SUIT
△ = X-RAYSCOP.
🦀 = PLASMA BEAM.
🦋 = SPACE JUMP.
◀ = SPEED.
🐚 = ICE BEAM
⚡ = SCREW ATTACK
🐛 = SPRING BALL
☀ = MORF BALL
🐞 = MISSILE ICON
🦐 = SUPER BOMB.
E = ENERGY TANK
RE = RESERVE TANK
• = MISSILES
• = SUPER BOMBS MISSILES
○ = SUPER BOMBS.
M = MAP.
M = MISSILE RELOAD.
P = POWER REFILL
S = SAVE.

X = A BOSS.

#88 September 2000
EDGE

X-Box: from dream to reality

News The trouble with PS2; Euro Xbox team restructures; Sega opens net@ areas
Prescreen No One Lives Forever; Aiken's Artifact; MrDriller 2; MGS2; TimeSplitters
Testscreen JSR; Virtua Tennis; Deus Ex; Legend Of Dragoon; TOCA WTC; GP3; SFIII: 3rd Strike; Diablo 2; Vib Ribbon
Features 3D Cards; The Xbox story; Territorial Advantage; Gaming Language

#89 October 2000
EDGE

The Getaway
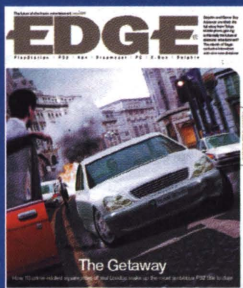
News GameCube and GBA; PS2 media outrage; Dreamcast price slashed
Prescreen Severance; Baldur's Gate 2; Dreamland Chronicles; Smuggler's Run; Ready 2 Rumble 2; Insane; Driver 2
Testscreen F355 Challenge; Spawn; Alien Resurrection; Mario Tennis; Parasite Eve II; Koudelka; Seaman;Terracon; Tenchu 2
Features WAP; Sega's new beginning

#90 November 2000
EDGE

Nintendo's resurrection
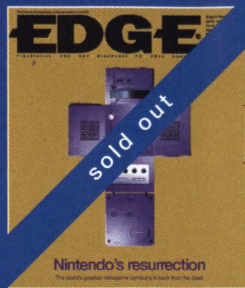
News ECTS 2000; Edge Live; WS Color; Acclaim's Ferrari dream crashes
Prescreen Dropship; Sin and Punishment; c-12; FFIX; Cosmic Smash; Unison; Confidential Mission; The Bouncer; RtCW
Testscreen X-Fire; Cool Cool Toon; TVDJ; Armored Core 2; THPS2; Speedball 2100; Dynasty Warriors 2; Gungriffon Blaze; UFC
Features Planet Harrier; Spaceworld 2000

#91 December 2000
EDGE

...rld Rally Championship 2001
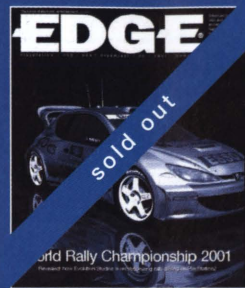
News TGS; Xbox support; JAMMA
Prescreen PSO; Operation Flashpoint; Daytona USA; WRC 2001
Testscreen TimeSplitters; MSR; SSX; Baldur's Gate II; Capcom Vs SNK
Features CD underground – Edge looks at the new era of piracy; Six Degrees of Innovation – the RCA students who may have something to teach the industry

#92 Christmas 2000
EDGE

Phantasy Star Online
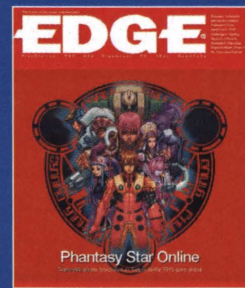
News PS2 storms into United States; Sega shifts focus as losses loom; BAFTA awards
Prescreen Sonic Adventure 2; PSO
Testscreen Shenmue; Legend Of Zelda: Majora's Mask; NOLF; Ready 2 Rumble: Round Two; Sega Marine Fishing; RC de GO!; Quake III Arena; Dead or Alive 2
Features Generation Y – Sony's Net Yaroze; Missing In Action – heroes of yesteryear

## #93 January 2001
EDGE

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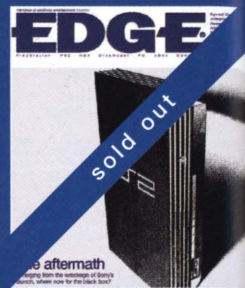
News Euro PS2 hits ground stumbling
Prescreen Fear Effect: Retro Helix; Anachronox; Devil May Cry; Kessen II
Testscreen Skies Of Arcadia; Final Fantasy IX; Escape From Monkey Island; Sin And Punishment; Kessen; Project IGI; Typing Of The Dead
Features Remodelling the Dreamcast; Development Hell; 'The First Quarter'

#100 August 2001
EDGE
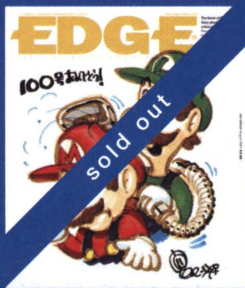
News Sega puts meat on multiplatform plans; Ken Kutaragi looks at future of PS2
Prescreen Onimusha 2; Ikaruga; State of Emergency; GunValkyrie; Xenosaga Episode 1; JSRF; Project Gotham; Tekken 4
Testscreen Freak Out; Sonic Adventure 2; Anachronox; THPS2; Final Fight One
Features Inside... NCL; Inside... SCEE; Prophet Forecast; Back in Time – C64 audio

## #101 September 2001
EDGE

Burnout
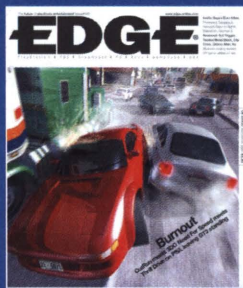
News University professors recognise the virtues of videogame theory; GT3
Prescreen Dead To Rights; PaRappa 2; Project Ego; TOCA; Devil May Cry
Testscreen Out Trigger; Ephemeral Fantasia; Ka; Gitarooman; Street Fighter II X Revival; Super Dodge Ball Advance
Features Starting Over; The making of... Sonic The Hedgehog; Inside... Warthog

## #102 October 2001
EDGE

TimeSplitters2

News Testing times for Microsoft; ECTS
Prescreen Stuntman; Devil May Cry; Shenmue II; The Thing; Grand Theft Auto 3; Return To Castle Wolfenstein; Shake It Bravoes!; Jedi Outcast: Jedi Knight 2
Testscreen Mario Kart Advance; Max Payne; Extreme-G 3; Mech Commander II
Feature The Magazine Game – the early days of videogame magazines in the UK

#103 November 2001
EDGE
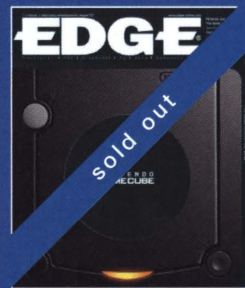
News Japanese GC launch; GDCE; ECTS
Prescreen Headhunter; Medal of Honor: Allied Assault; Conflict Desert Storm; Virtua Tennis 2; MotoGP 2; Maximo; StarFox Adventures: Dinosaur Planet; Kaisertal
Testscreen SMB; Luigi's Mansion; Wave Race; Devil May Cry; Project Eden; Silent Hill 2; PaRappa The Rappa 2
Feature Tecmo – Dead Or Alive 3

## #104 December 2001
EDGE

pure gaming?
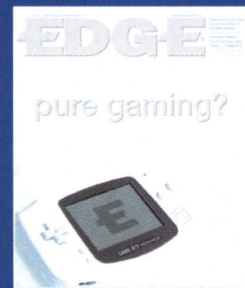
News TGS; JAMMA; Telewest's broadband strategy; Mac OS X and Windows XP
Prescreen Biohazard; Maximo; Eternal Darkness; Civilization III; Baldur's Gate; Nezmix; Maximum Chase; Soul Calibur 2
Testscreen Burnout; Headhunter; Advance Wars; Ico; Silent Scope 2; Time Crisis II
Features Portable Pleasure: Handheld Generations; A Boy's Tale – GBA

#105 Christmas 2001
EDGE

FX✕K
Why Edge swears by Microsoft's new console
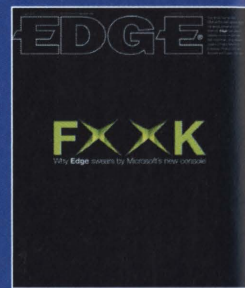
News Xbox in Cannes; BAFTA 2001 awards
Prescreen Defender; Virtua Fighter 4; GunValkyrie; MotoGP; Gun Survivor 3
Testscreen Halo; Oddworld: Munch's Oddysee; Amped; Rez; Pikmin; Civilization III; Jak and Daxter; Gotham; Shenmue II; Virtua Tennis 2; WRC; Bravo Music; GTAIII
Features Inside... SCEI; Requiem For A Dream: the life and death of Dreamcast

#112 July 2002
EDGE

Class of 2002
Edge selects those most likely to succeed from this year's E3 show
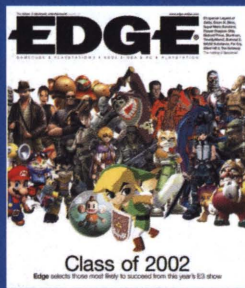
News E3 report; GameCube UK launch
Prescreen Legend of Zelda; Super Mario Sunshine; Burnout 2; TimeSplitters2; Doom III; Resident Evil 0; Silent Hill 3; Blinx; Metroid Prime; Ratchet & Clank
Testscreen Soldier of Fortune II; Armored Core 3; Morrowind; MotoGP; Fatal Frame
Features Dangerous Game – videogaming health risks; The making of... Spacewar!

#113 August 2002
EDGE
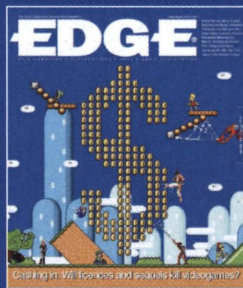
News Development finance; school piracy
Prescreen Mario Sunshine; Sly Cooper; Fat Man and Slim; Metroid Fusion
Testscreen Neverwinter Nights; Lost Kingdoms; Otostaz; GT Concept; Pinball of the Dead; Zettai Zetsumei Toshi
Features Licence to Kill – a one-trick pony industry?; Mile High Club – the flight to E3; 'Game On'; Attack of the Mutant Camels

#114 September 2002
EDGE

Super Mario Sunshine
The Edge review
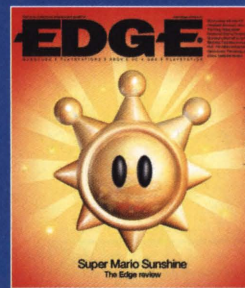
News Xbox chipping; digital distribution
Prescreen Burnout 2; Battlefield 1942; The Thing; Shox; Mutant Storm; Sega GT
Testscreen Mario Sunshine; Eternal Darkness; Medieval Total War; Stuntman; Warcraft III; ZooCube; Dino Stalker
Features Box Clever – boxart; Wargames – the army and games; Inside... Bits Studios; Audience with... Nalin Sharma

#115 October 2002
EDGE
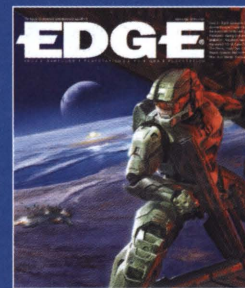
News Consoles online; Siggraph; GDCE
Prescreen Halo 2; Mojibribon; Racing Evoluzione; Robotech; Haegemonia
Testscreen GunGrave; TOCA Race Driver; Crazy Taxi 3; Beach Spikers; Turok Evolution; Mat Hoffman 2; Desert Storm
Features Rhythm Nation – the arcade dancegame scene; The MAME Game; Orchestral Manoeuvres – music in games

#116 November 2002
EDGE

Boo!
Why arcade games are running scared
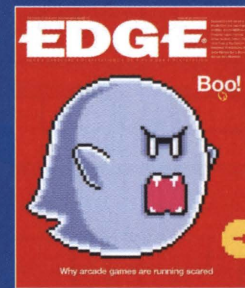
News ECTS; GDCE; GBA2; PS3
Prescreen Brute Force; Red Faction II; Clock Tower 3; Kid Ninja; Haven
Testscreen TimeSplitters2; Burnout 2; Super Monkey Ball 2; Ikaruga; Rocky; Quantum Redshift; Auto Modellista
Features Insert coin to continue – the downfall of the arcade; Extra life? – the possible future for the coin-op scene

#117 December 2002
EDGE

Operation Xbox
Is it terminal?
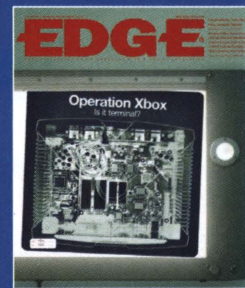
News Rare&MS; TGS; Fairplay; JAMMA
Prescreen O.TO.GI; Sudeki; Crimson Sea
Testscreen Animal Crossing; SOCOM; Star Fox Adventures; Ratchet & Clank; Blinx; LotR, The Two Towers; UT2003; Colin McRae Rally 3; Dead to Rights
Features Ex-box? – cover feature; 'ware next? – the shape of future hardware; Living the vida coder – developer lifestyles

#94 FEBRUARY 2001

EDGE

sold out

The power of X
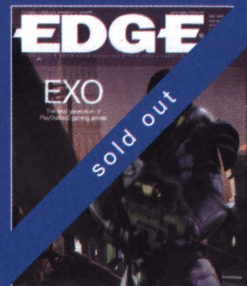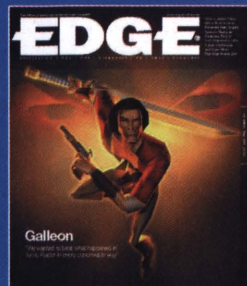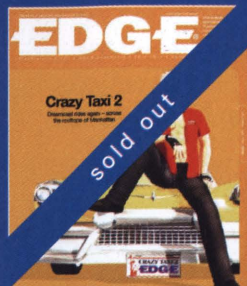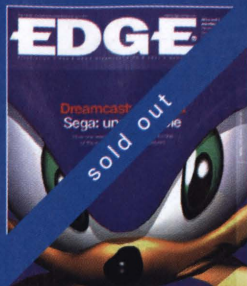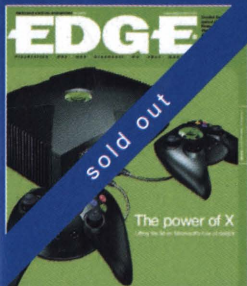
News *Xbox unveiled; PS2 trouble in Japan; online survivors look to future* **Prescreen** *Ace Combat 3; Twisted Metal Black; Extermination; Virtual On Force; Project Eden; C-12; Para Para Paradise* **Testscreen** *Daytona USA 2001; The Bouncer; Grandia II; Giants; Oni; Kengo; Guilty Gear X; Mech Warrior 4; ISS 2* **Features** *Sex, violence and videogames*

#95 MARCH 2001

EDGE

sold out

Dreamcast Sega: unknown future

News *Sega shifts focus ; Coin-ops struggle at ATEI; iMode revolution* **Prescreen** *GT3 A-spec; Street Fighter III Upper; Serious Sam; Gangsters 2* **Testscreen** *PSO; Tempest 3000; Shadow Of Memories; Onimusha; Fear Effect 2; Metal Slug X; Giga Wing 2; C-12* **Features** *Nuon lights; All too real? – the latest in animation technology*

#96 APRIL 2001

EDGE

sold out

Crazy Taxi 2

News *Konami and Sega dominant at AOU; Wireless and online the toast of Milia* **Prescreen** *VF4; Headhunter; Prisoner Of War; The Getaway; New Legends* **Testscreen** *Black & White; ZoE; Star Wars: Starfighter; Conker's Bad Fur Day; Quake III Revolution; Serious Sam; Paper Mario* **Features** *Edge presents four titles destined for Microsoft's Xbox*

#97 MAY 2001

EDGE

Galleon

News *Xbox at TGS; TIGA launch* **Prescreen** *Halo; Amped; Operation Flashpoint; Commandos 2; Anarchy Online* **Testscreen** *Ring Of Red; Space Tripper; Kuri Kuri Mix; F-Zero Advance; Wai Wai Racing; Castlevania: Circle Of The Moon; Super Mario Advance; Kuru Kuru Kururin; Mr Driller 2; Power Shovel Ni Norou!!* **Features** *Awards 2001; Inside… Rebellion*

#98 JUNE 2001

EDGE

EXO

sold out

News *Sega signs off DC with a flourish* **Prescreen** *Enclave; Good Cop Bad Cop; Ka; Baldur's Gate: Dark Alliance; Silent Hill 2; Freedom Force; The Lost; Crazy Taxi 2* **Testscreen** *Extermination; Illbleed; Klonoa 2; Confidential Mission; Winning Eleven 5; Rumble Racing; Advance GTA; Fur Fighters* **Features** *GDC in San Jose; What Goes Around Comes Around – 'new old' games*

#99 JULY 2001

EDGE

The Nintendo difference

News *Threeway E3 showdown* **Prescreen** *Luigi's Mansion; Freakout; Wave Race: Blue Storm; TimeSplitters 2* **Testscreen** *GT3: A-spec; AitD: The New Nightmare; Startopia; Operation Flashpoint; Crazy Taxi 2; Z: Steel Soldiers; Red Faction; Mat Hoffman's Pro BMX; I-War 2* **Features** *Best in show – titles of E3; Movie S.T.A.R.S – 'Resident Evil: Ground Zero'*

#106 JANUARY 2002

EDGE

Power Struggle
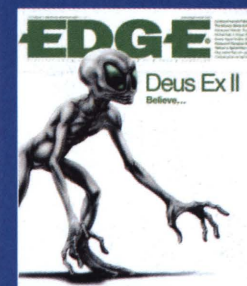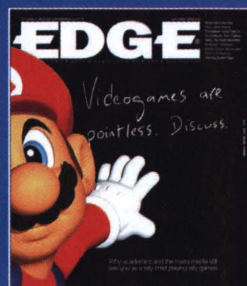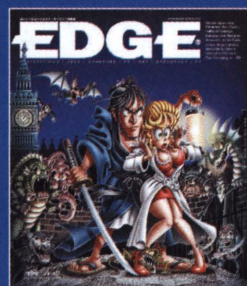
News *Xbox and GameCube storm the US* **Prescreen** *Terminator; Spider-Man: The Movie; Prisoner of War; IGI2; Kessen II; Herdy Gerdy; TimeSplitters2* **Testscreen** *MGS2; Rogue Leader; DoA3; RtCW; Dropship; Tony Hawk's 3; Smash Brothers DX; MotoRacer 3; SSX Tricky* **Features** *Auto Modellista Focus; Power Struggle – GC, PS2 or Xbox? The verdict*

#107 FEBRUARY 2002

EDGE

sold out

A legend returns

News *Murder on the high street* **Prescreen** *FFXI; Y-Project; Speedball Arena; Battle Hoshin; V-Rally 3* **Testscreen** *FFX; Super Mario Advance 2; MoH: Allied Assault; Maximo; Frequency; Wipeout Fusion; MotoGP 2; Vampire Night* **Features** *Inside… Lost Toys - Battle Engine Aquila; Vintage gaming; What Atari did next; Audience with… Warren Spector*

#108 MARCH 2002

EDGE

News *Milia 2002; Xbox online plans* **Prescreen** *Vexx; Ryzom; Freedom Force; Hitman 2; Barbarian; Britney's Dance Beat* **Testscreen** *JSRF; VF4; Herdy Gerdy; PSO Ver.2; Golden Sun; Obi-Wan; ICO (PAL)* **Features** *East is Eden – Japanese gaming culture; Rising Sun – how Japan took over the videogaming world; Audience with Charles Cecil; The making of… SFII*

#109 APRIL 2002

EDGE

Videogames are pointless. Discuss.

News *Xbox Japan launch; Mario Sunshine* **Prescreen** *Superman: The Man of Steel; Crazy Taxi 3; Tekki; Twin Caliber; Yager* **Testscreen** *Wreckless; Blood Wake; State of Emergency; RalliSport Challenge* **Features** *Learning Curve – videogames and academics; Easter Delights – game secrets; Press Ganged – videogame press coverage; The making of… Chuckie Egg*

#110 MAY 2002

EDGE

THE AWARDS ISSUE

News *Xbox UK launch; Disabled gaming* **Prescreen** *Broken Sword III; TR: The Angel of Darkness; GunGrave; Reign of Fire; Republic; Otostaz; Ghost Master* **Testscreen** *GunValkyrie; GC Biohazard; Onimusha 2; Freedom Force; Jedi Knight II* **Features** *Awards 2002; Minority Report – gaming ignores certain sectors of society; The Need for Speed – console optimisation*

#111 JUNE 2002

EDGE

Deus Ex II
Believe…

News *Console price cuts; E3 rumours* **Prescreen** *Shinobi; Tron 2.0; Colin McRae Rally 3; Rygar; Deus Ex II; Breed; Super Monkey Ball 2; Battle Engine Aquila* **Testscreen** *Tekken 4; Spider-Man; Medal of Honor: Frontline; Gun Metal* **Features** *Inside… Capcom Co Ltd – Tekki; AI – replicating human behaviour in games; Inside… Lionhead – six new games*

#118 CHRISTMAS 2002

EDGE
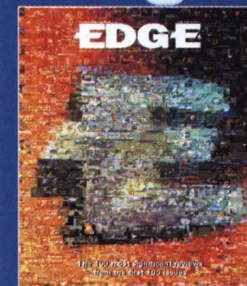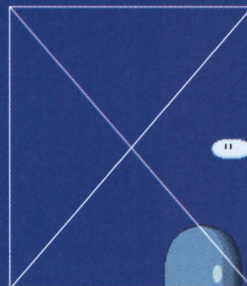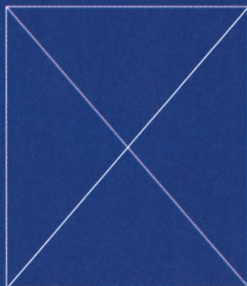
Three Kings

News *Three Kings; Xbox Live; PS2 online* **Prescreen** *Network_Biohazard; Sudeki; Viewtiful Joe; Eve Online; F-Zero AC/GC* **Testscreen** *Splinter Cell; GTA: Vice City; Haven; Mutant Storm; Contra: Shattered Soldier; Mystic Heroes; ToeJam & Earl III* **Features** *Game of Chance – failed software houses; Global Underground – the world's unknown developers exposed*

#119 JANUARY 2003

#120 FEBRUARY 2003

#121 MARCH 2003

#122 APRIL 2003

#SPECIAL EDITION 2001

EDGE

Edge *reprints the 100 most significant reviews from the first 100 issues, recording both the magazine's history and the standout critical moments from the last eight years of videogaming. It's a chance for Edge to reconsider era-defining games and its own critical comment, to contextualise their impact on gaming culture. It also includes a comprehensive index of E1–100*

For the past nine years, **Edge** has consistently and extensively showcased the best and most significant developments from the global multiformat videogaming scene, providing reliable, intelligent and independent coverage

It isn't for everyone.
The world's most respected videogame magazine.

Digging up the past

Or: retroreviewing

Hey," begins the conversation, "what do you think **Edge** would've said about *Space Invaders* if the magazine had been around in 1978?" Or how about *Elite*? Or *Exile*? Or what about something a bit more contemporary, like *Sonic The Hedgehog*? It was with this not-uncommon exchange in mind that **Retro** assembled a collection of reviews for this special edition.

When putting together a list of games for assessment, it was tempting to simply cherry pick a bunch of classics that, to anyone's mind, would be deserving of a ten. And, clearly, many of the titles featured over the next 11 pages are landmarks in their own right. But a selection of titles whose contribution to gaming's evolution passes beyond mere commercial success also features.

It's not easy to review yesteryear's electronic follies as if they had just landed on your desk. Significant chunks of history have to be thrown aside and preconceptions must be cleared away. **Retro**'s reviewers have had to regress, and it's been a fascinating exercise.

With **Retro**'s Testscreen section, each game has been approached again as if it was the first time: the main text you'll read, allied with captions, relates specifically to how game X or Y stood up to the reviewer's appraisal at the time of its initial release. Along with this, each review features a boxout detailing how the game plays today.

But consider for a moment the games that didn't make it.

"How about *Space Invaders*?"

"Hmm. A little too obvious."

"*Out Run*, then."

"Well, **Edge** has never really reviewed coin-ops. Apart from *Ridge Racer* in issue seven."

"We're really making this difficult, y'know."

"But that's the point, isn't it? This section should be all about the intangible, about games that deserved to have a magazine around at the time to appreciate them."

"How about I review *Captain Blood*, then?"

"Perfect."
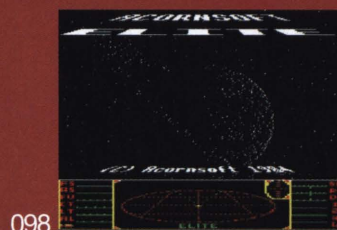
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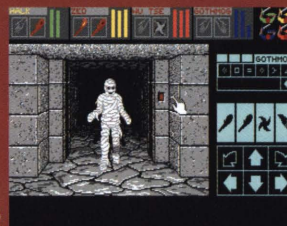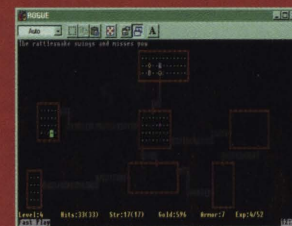
102   104

105   106

107   108

Elite (BBC) p098 **Exile** (BBC) p100 **Dungeon Master** (ST) p102
Rogue (PC) p104 **Captain Blood** (ST) p105 **Pilotwings** (SFC) p106
Sonic The Hedgehog (MD) p107 **Powerdrome** (Amiga) p108

Retro's most played

The Last Ninja
Retro's art editor lovingly mapped this isometric adventure on graph paper back in the '80s, so it had to get another airing. "It's not how I remembered it," he was heard to say.

(C64)

Flashback
Keen to remember the impact polygonal animation in a 2D plane had on the 16bit era, the **Retro** team has been slinking its way through Delphine's polished platformer.

(Amiga)

Contra III
You remember, of course, when consoles had their own hardware tricks. The most infamous was the SNES's Mode 7, used to gorgeous effect in this Konami shooter.

(SNES)

Axelay
At what point did developers forget that space-based shooters could be this jaw-droppy? Have you experienced such wowsome encounters since? Legendary.
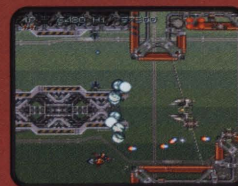
(SNES)

Strider
The *Resident Evil* series and its offshoots are all well and good, but Capcom's adventures in The Land of Polygons have yet to prove as imaginative as this, a true one-off.

(coin-op)

Elite

Format: **BBC** ● Publisher: **Acornsoft** ● Developer: **Ian Bell and David Braben** ● Release: **1984**

Mostly harmless after all

Elite inspired everything from David Braben's own *Frontier* sequels to Chris Roberts' *Wing Commander* series and Gametek's flawed masterpiece *BattleCruiser 3000*. But no game has ever come close to the freedom it offered. The hopeful now look online to Westwood's *Earth and Beyond* and CCP's *Eve*, but it seems unlikely that kid-strewn MMPOGs will suspend disbelief in the same way *Elite* did.
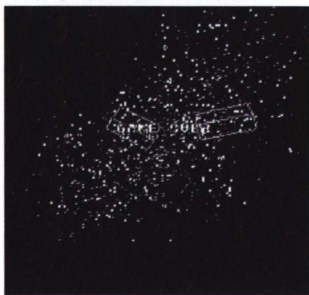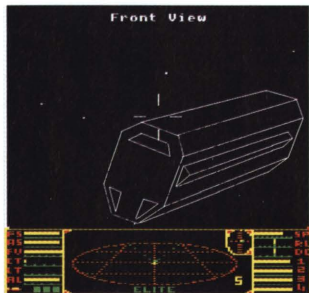
Bell and Braben have done an astonishing job of creating a universe which is both immersive and credible on the BBC Micro

Most readers would hope that we've only been given a taste of what computer and videogames can do. While it's difficult to imagine more frenetic action than Eugene Jarvis' *Defender* or a game more beautiful than Don Bluth's *Dragon's Lair*, the fusing of these and other elements will only improve with technology.

Dragon's Lair graphics on a system fast enough for instantaneous action is one possibility – a living, interactive cartoon. But perhaps *Elite*, running not on an arcade box but on that schoolroom favourite, the BBC Micro, offers a truer glimpse of the future.

What is *Elite*? It's a space-opera shoot 'em up. It's a trading game with a pan-galactic economy obeying the laws of supply and demand, a game so deep it comes with its own novella. According to Acornsoft, the book is to stop players feeling totally at sea. For it's a game with no levels and an obscure one-word scoring system that runs from Harmless to – it's rumoured – Elite.

Elite may have no end but it has a beginning. You start with a Cobra Mark III – a good all-round ship – and some credits on a space station orbiting the planet Lave. What happens next is up to you. The obvious strategy is to begin trading: ferry abundant goods to resource starved outlying worlds, sell your wares, and buy whatever is cheap there. While *Elite* was created by two Cambridge University students, it's hard not to believe the prime minister had a hand in it.

Indeed, it's the epitome of Thatcher's laissez-faire economics. As a freelance space trader, it's up to you, not the game or the government, to upgrade your ship with beam lasers or a fuel scoop that lets you skim gas from a nearby sun, while an armada of rival traders in exotic craft (Pythons, Anacondas, more) compete with you.

Scrapes are inevitable. Traders will be ambushed by pirates or – and this is the joy of *Elite* – you may decide to become a pirate yourself. That fuel scoop can gather the cargo of a disintegrated ship or even its pilot who you can sell into slavery. (Other unsavoury contraband includes narcotics and firearms – but fugitive status is difficult to live with even given a galaxy to hide in).

Combat takes practice. Forget *Space Invaders*, think more of the naval battles of attrition of old. Energy is split between shields and weapons, and the final killing shot can come as a surprise (though not if it's your own ship). Missiles and ECM anti-missile measures add to the tactical options. Using a missile early can save your skin later,
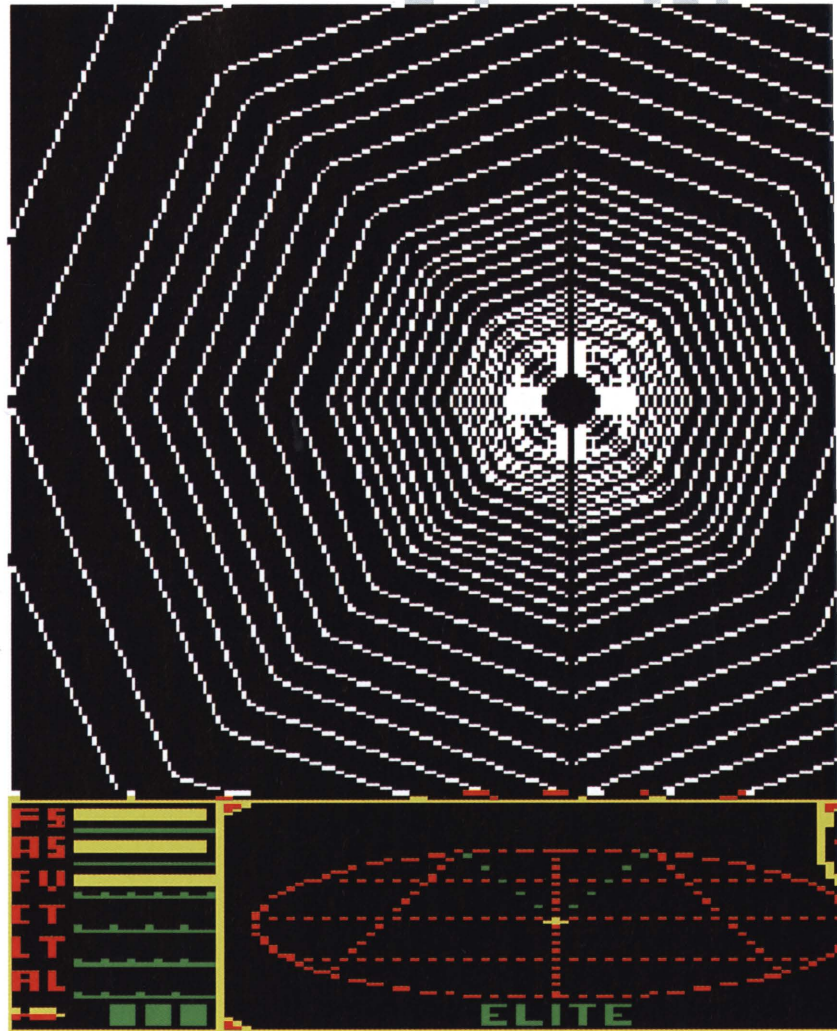
by immediately scattering pirate forces.

All this is superbly realised by *Elite*'s breathtaking 3D vector-graphics engine. There are spinning space stations, distant planets, and other traders going about their business to admire. *Defender* comes to mind again, but while it implemented the first offscreen world, in *Elite* you get a snapshot of a universe.

When confronted by such majesty, quibbling seems petty. *Elite*'s physics-defying laser blasts are surely preferable to silence. And docking – requiring synchronised rotation with a spinning space station – is hard, but why shouldn't it be? (An automatic docking computer is available for the lazy.) From its Douglas Adams-esque planetary descriptions of blue volcanoes and rabid arts

students, to the apparently vindictive police or the first time you jump between galaxies, *Elite* astounds. **Edge**'s own commanders – the best rated Deadly – have barely been seen for weeks. Then there are the missions.

Ironically, *Elite*'s closest cousin is perhaps D&D-style roleplaying. Never before has a computer gamer been able to so fully inhabit an alternative self. Scanning the cockpit while climbing out of laser shot with a cargo of goods, you forget you're playing a game. Not even a Beeb's 32K can hold a universe – but giving in to the illusion is effortless. There's never been a game like it. In the future, all games will be like *Elite*.

Edge rating: **Ten** out of **ten**

SHORT RANGE CHART

Orrere
Reorte
Uszaa
Eave
Diso
Riedquat
Leesti
Zaonce
Tionisla
Orerve

---- E L I T E ----

Press Space Or Fire,Commander.
(C) Acornsoft 1984

Front View

Front View

Front View

Front View

GALACTIC CHART 1

Front View

Front View
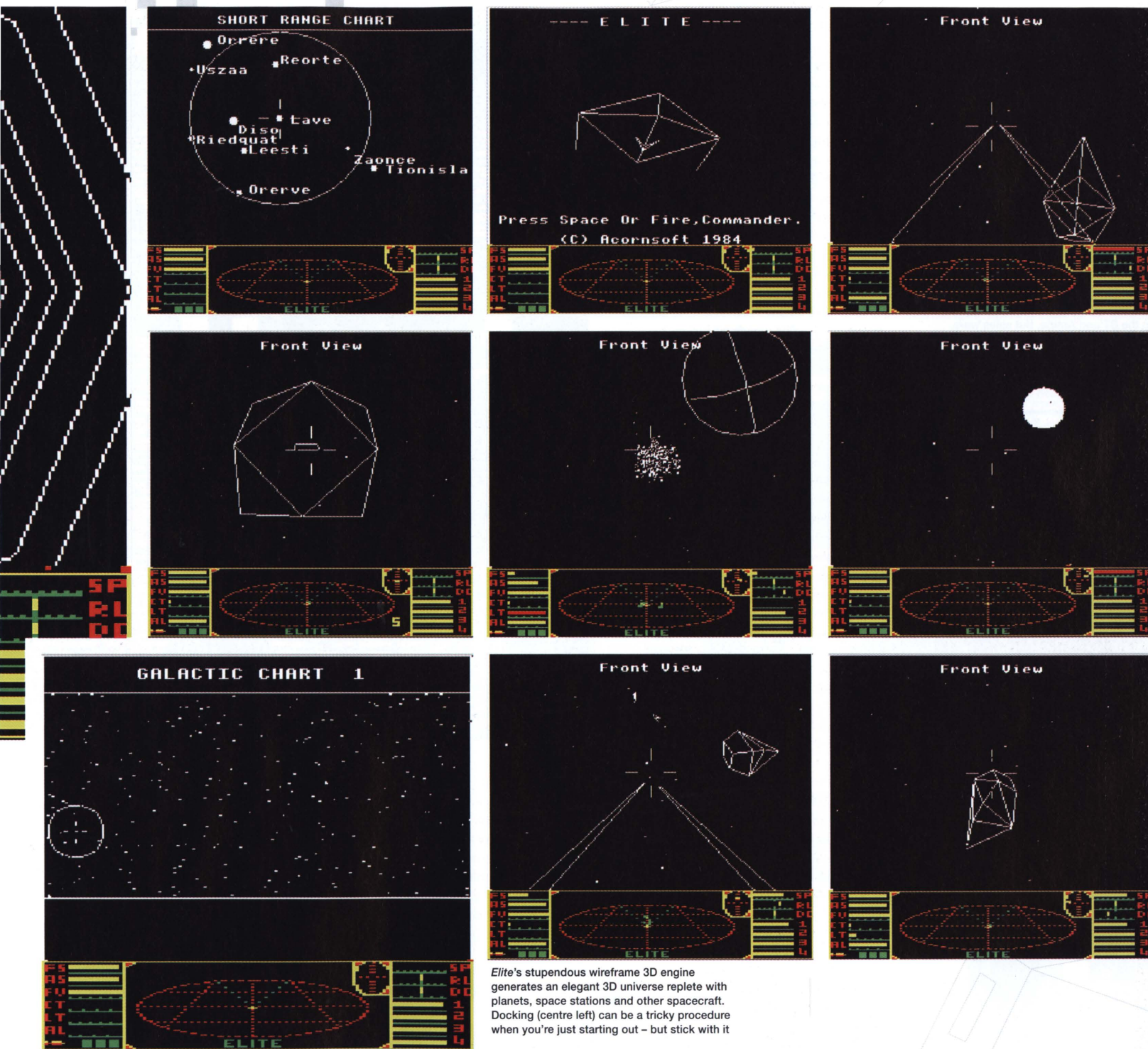
Elite's stupendous wireframe 3D engine generates an elegant 3D universe replete with planets, space stations and other spacecraft. Docking (centre left) can be a tricky procedure when you're just starting out – but stick with it

It's well known that *Donkey Kong*'s hero, Jumpman, was renamed after Mario Segali, Nintendo's rent collector in Seattle, but what of the maiden he was to rescue? Originally, she was named Pauline, after the wife of Nintendo employee Don James

< 099 >

Exile

● Format: **BBC** ● Publisher: **Superior Software** ● Developer: **In-house (Jeremy Smith and Peter Irvin)** ● Release: **1988**

Familiar fortunes

Exile was startlingly ahead of his time, so it shouldn't really surprise that, if you forgive the 8bit graphics and jerky scrolling, it's still eminently lovable. So why the (practical, in relation to its theoretical importance) anonymity? Misfortune, **Retro** supposes: its appearance on a dying format hampered its chances of informing the future of gaming. Critical acclaim followed conversion to the ST and Amiga, but sales were unconscionably weak, and *Exile* remains an experience unchecked by an industry that often needs an education in focused freedom.

The game's protagonist cannot die. His suit can remember up to four locations and when Flynn is about to expire he is transported to the last one stored

Exile's diary-style novella details the game's well-worked plot in lavish detail: an exploration party lands on the wind-swept moon of Phobos and discovers primitive sentient life in a network of underground caves. When the party's only means of escape, its spacecraft, is disabled by an unseen intruder, scientific intrigue turns to claustrophobic fear; when the inhabitants of the moon's lower caverns prove to be significantly less benign than those encountered near the surface, fear turns to terror turns to chilling bloody horror writ in B-movie prose. The player, as weary space adventurer Mike Flynn, is sent to investigate and to rescue any survivors.

So it begins. Given *Exile*'s genre is nominally that of an arcade adventure, it would be reasonable for players to expect it to take the same form as the Oliver twins' *Dizzy* series, or Superior's own *Citadel*. Superficially there are similarities. Flynn must take objects from one part of Phobos and use them to solve puzzles in another, and there are certainly arcade elements which could be analogised to pure platforming tests of judgement. But comparisons with *Exile* and *any* previous game are essentially redundant, because the leap in technology and subtlety here is so immense as to be frightening.

For example, every item, from individual bullets to the largest of enemies, has a distinct size and weight, and acts under gravity and inertia. Some can be picked up and thrown at any angle; others will only move inches when Flynn hurtles at full speed against them. This approximation of real-world physics must be used to solve the game's puzzles, causing previously linear solutions to open up to freeform improvisation, but it also impacts on the sumptuous control system. There is such a perfect weight and balance to Flynn's jetpack flight that his movement is almost balletic. Just avoiding enemy fire is a skilful, graceful, unique experience.

Another key point: it is impossible to die in *Exile*. Flynn's suit can 'remember' up to four locations simultaneously, and when the player character is at the point of death the suit teleports him to that most recently stored. Experimentation is actively encouraged, because even if trial and error proves fatal and no location has been saved, the player simply returns to the safety of the orbiting ship.

And another: Phobos is teeming with life of varying levels of intelligence, and everything interacts. Flies, monkeys,

mushrooms, fish, slime, robots, different species of bird; again, *Exile* offers the player the freedom to experiment in a world whose rules are completely natural. Cross-referenced with the novella, it is as close to a living world as gaming has ever come.

Such intricacy could overwhelm, but while the player almost always has somewhere else to go, something else to do, there is, equally, always a focus. It's a demonstration of how stories within games should be told – there is no text within the game, just an unstated guiding hand, and situations thrown up by circumstance which the player captions with their imagination. The prelude – *Exile*'s novella diary – comes prepackaged like a trailer. Everything else you create.

Which is really why *Exile* is so different from everything else. Previously, adventurous gamers followed one-zero patterns to their reward screens. *Exile* opens up the dimension of choice, and all of a sudden it seems like we've been made fools of for 15 years, following strict solutions to problems set in stone. Here, everything is logic and skill, and it's truly so far ahead of everything else that it's practically a vision of the future. Like the objects within its particle-physics pixellated world, it is *Exile*'s weight that is truly important. It is so huge and unbelievably dense, its imprint on computer game development should be appropriate to that.

Edge rating: Ten out of ten

< 100 >   'Star Wars'-licensed games were not always the product of LucasArts: until 1992, Broderbund owned the rights. Since the original movie's release in 1977, nearly 100 'Star Wars'-licensed games have been produced
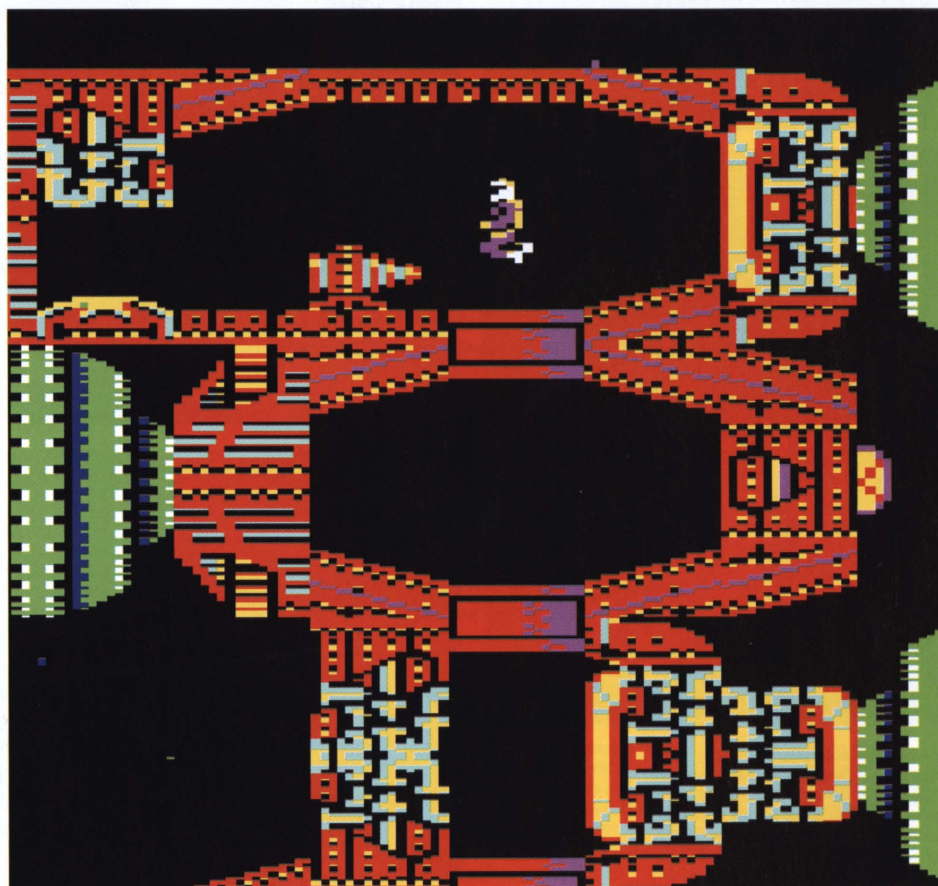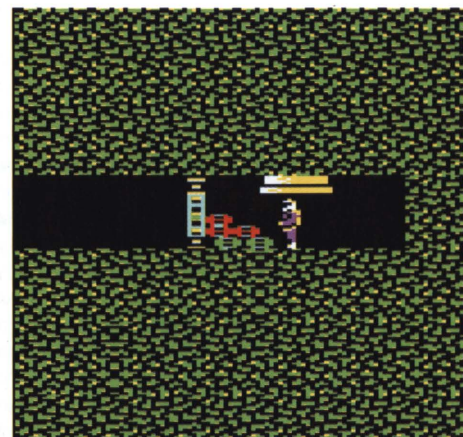
Exile's attempt at creating realistic physics is wholly successful. Simply moving protagonist Mike Flynn around the screen is an endeavour that just has to be experienced. Simply moving around your ship (above) presents a number of interesting elements

Learning from its mistakes with *Computer Space*, Atari's promotional material for *Pong* made the 'simple-to-operate controls' and 'low-key cabinet, suitable for sophisticated locations' key selling points

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Dungeon Master

● Format: **ST, Amiga** ● Publisher: **Activision** ● Developer: **FTL** ● Release: **1987**

Revisiting the dungeon

Tony Crowther's excellent *Captive* ripped off *Dungeon Master* wholesale back in 1992, but the futuristic setting and slightly repetitive goals arguably made it less enthralling than FTL's classic. Play *Dungeon Master* today and it still contains a charm and intricacy that remains once the nostalgia has worn off. Sure, the environments look sparse and the creatures are far less threatening than you remember, but the pacing – a beautifully judged element – cannot be undermined by the passing of time. The puzzles, too, feel as fresh as the day they were conceived, especially when compared to the simplistic broken fusebox-style problems encountered in many a modern survival horror title.

The Couatl is encountered midway through your *Dungeon Master* quest and is capable of inflicting a deadly poison. Predictably, your cleric is able to cast cure-poison spells or create cure-poison potions by using the correct equipment. There is never just one solution to a problem in FTL's game. It encourages independent thinking at nearly every turn

Some indication of the brilliance of *Dungeon Master* can be conveyed by the fact that you can spend hours simply choosing your questing heroes. And blissful hours they are, too. From the opening of the very first iron-clad door that leads into The Hall of Champions, *Dungeon Master* sweeps you away into a spellbinding universe.

The first challenge is to select four heroes for your party, and it is vital at this stage to choose wisely, blending characters together with aggression, healing, magical abilities and powerful weapons to survive the many trials ahead. And although all puzzles and scenarios can be beaten with any combination of heroes (or indeed just one character if you want a very stern challenge), balancing the team will make progress more swift.

FTL's title is such an intelligent, labyrinthine and sophisticated game that it's impossible to do every one of its ingenious aspects justice in a single review. The most noteworthy feature is that all the exploration, combat and spell casting takes place in realtime, effectively revolutionising the genre and making stodgy party-based RPGs, like *The Bard's Tale*, look archaic. The tension as you wander down gloomy corridors illuminated by your sputtering torches is palpable. When a monster suddenly lurches around a corner it can be truly shocking.

The illusion of a fully working universe is never shattered. Torches burn down slowly until they fizzle and leave you in shadow and darkness; knives will make no impression on wooden doors, which will break open under heavy blows from an axe; creatures can be killed with traditional weapons, destroyed with magic or lured into pit traps. There's never one solution to neutralising a threat or overcoming an obstacle: *Dungeon Master*'s major achievement is providing the player with a plentiful number of tools, and each individual will use them differently.

Almost every object and environmental detail in the universe can be interacted with, picked up, burned, thrown, added to the inventory, eaten or used to solve one of the game's many conundrums. Every item has a value: throw an apple at a mummy and the creature will take minimal damage, but trap the same monster under a portcullis and you can watch as it is crushed to death. Never has such a vital and tactile world been created, and the level of detail calls for an unprecedented level of spontaneity and

imagination on the part of the player. Your strategising will evolve as you play, and your level of reward grows exponentially.

The spell system alone displays a level of ingenuity that encapsulates the *Dungeon Master* philosophy. Arcane symbols are learned as the game progresses and are combined together to produce effects as varied as fireballs, healing potions and spells that allow you to see through walls. Often found on scrolls, or sometimes discovered through experimentation, the spells are a powerful tool to overcoming the puzzles and creatures encountered in the deepest, darkest dungeons.

Indeed, *Dungeon Master* does something extraordinary for an RPG: it actively encourages the player to experiment – to dabble with magical runes, to mix powerful new potions, to think up fresh ways of dealing with creatures, and to try using objects in new and exciting ways. Often the reward in the game doesn't come from hacking down hordes of enemies, it's in

the simple things like discovering that a coin placed in a fountain might open up a secret passageway.

The puzzles in the game are clever but never illogical and the levels are sympathetically designed to lead the player by the hand early on and then gradually crank up the level of challenge incrementally. Though the monsters are minimally animated and emit meagre sound effects, it's a testament to the game's atmosphere that they can generate so much fear in the beholder. Meeting a new creature type for the first time is both intriguing and intimidating; finding new tactics to deal with the threat is superbly stimulating. The compulsion to reach the lower dungeons to encounter yet more fearsome foe is strong.

FTL has created an evocative world, thick with atmosphere and suffused with wit and imagination. *Dungeon Master* can be summarised in one word: beguiling.

Edge rating: **Nine** out of ten

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Early text adventure *Zork* was littered with in-jokes and references. Inputting the words 'xizzy' and 'plugh' (magical phrases from *Adventure/Colossal Cave*) was met with the response: 'A hollow voice says "Fool"'
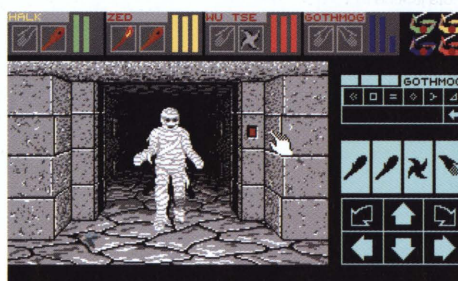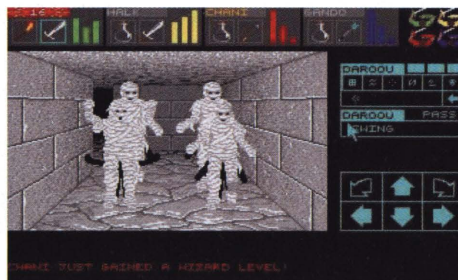
Bringing a champion back to life is an exciting moment. Stats don't reveal everything: some characters' perceived weaknesses are more than made up for by a powerful wand or a brutal battleaxe. Once you have taken your heroes through several deadly encounters you'll begin to feel a strong bond forming between you and their digital personalities

Rogue

● Format: **PC** ● Publisher: **Public** ● Developer: **Ken Arnold and Michael Toy (converted by Jon Lane)** ● Release: **1984**

The Amulet of Yendor is likely to stay out of reach of most of those who pass through the Dungeons of Doom, but a hi-score table does offer some solace

Roguish charms

The historical significance of *Rogue* has perhaps been overlooked by most videogame histories. Although it's little known today, the game had a disproportionate influence on almost every subsequent exploratory title, from *Doom* to *Diablo*. Indeed, the recent success of *Diablo*, an almost verbatim *Rogue* remake, is a testament to exactly how 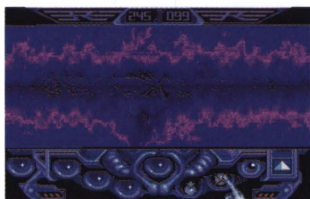compelling the game was and remains to this day. Despite the rudimentary visuals, it's nevertheless hypnotically addictive, partly due to the emergent possibilities, but also due to the always-revelatory exploration. The Amulet of Yendor remains an enticing goal – and is still discoverable on PC.

It's incumbent upon any developer that hopes to produce a first-class adventure game to stimulate the imagination as much as it challenges the intellect. It's not enough to simply present players with a succession of puzzles; these need to be amplified by a well-considered turn of phrase, or a graphically depicted scene.

However, when the original UNIX version of *Rogue* was developed in 1980 it turned the genre on its head. By using ASCII characters to depict the overhead topography of a subterranean dungeon – and consequently by presenting the player with a thirdperson experience rather than the more conventional firstperson adventure – players were guaranteed an experience that engaged the senses.

The real charms of *Rogue*, though, were that its randomly generated dungeon ensured a novel experience every time it was played, and the balance of exploration and combat was delicately engineered to produce an addictive rhythm of progress. This PC conversion preserves these hallmark features, expanding upon them with an even brighter, more pleasing visual component – though by modern-day coin-op standards the graphics are still relatively spartan.

Players are once again charged with navigating the Dungeons of Doom in order to secure the coveted Amulet of Yendor. However, the course of adventuring never did run smooth; a host of dangerous traps, nefarious beasts, and magical obstacles bar the path to the lower levels of dungeons. Strength-sapping rattlesnakes, for example, or light-fingered leprechauns each present their own difficulties, while the less said about

indomitable dragons and trolls the better. The game also boasts some neat AI tricks to add to the impression of a living, breathing dungeon – orcs will rush to defend their gold, for example, while ice monsters tend to remain characteristically inert.

Indeed this consistently depicted universe adds immeasurably to the experience of exploration, which remains as beguiling as it did on BSD UNIX. Navigating the undiscovered geography of new levels remains compelling in its own right thanks to the wonderful balance of risk and reward. And though only the most devoted players are likely to make their way to the deepest levels of the Dungeons of Doom, the Amulet of Yendor will, in all likelihood, remain a long-lasting goal for the rest.

Edge rating: **Eight** out of ten

Judged by contemporary coin-op standards, the graphics aren't exactly cutting edge, but the emergent, explorative gameplay at the heart of *Rogue* certainly is

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On online pioneer, it was possible to play 1989's *Populous* over a modem. Most surprisingly, PC and Amiga versions were compatible in this connected mode

Captain Blood

● Format: **ST, Amiga** ● Publisher: **ERE Informatique** ● Developer: **Exxos** ● Release: **1988**

Unfortunately, you don't get to fly your spacecraft. However, brief control is permitted when landing the ship (above)

Captain Blood's delirious novella – which may or may not explain why the eponymous anti-hero is dying, and must find and kill his clones in order to survive – sets high expectations for the game. The presentation certainly doesn't disappoint: from the sampled Jean-Michel Jarre soundtrack to the cold blue-hued Gigeresque interface, the production design is faultless and replete with inspired touches. Although initially overwhelming, control of your biomechanical ship's systems is as functional as it is stylised.

Beneath the slick exterior, Blood's search for his clones is at heart a graphic adventure. Space travel is hands-off; planetary landings require player control only for an exhilarating, but brief fractal-generated canyon run. However, dealing with the inhabitants of these planets is easily the game's strongest feature. Communication is conducted through an iconic interface, with each of the 120 icons corresponding to a word. As characters speak (literally, with an intricate sampled alien dialect) it is translated into blocks of icons, to which a suitable Pidgin English response can be formulated. Although progression relies on identifying keywords, a surprising amount of interaction is possible, complimented by an impressive illusion of intelligence from the more talkative characters. It's a remarkable mechanic that successfully conveys the nuances of different species and characters while maintaining the sense of remoteness.

Thematically, Captain Blood is rich with French pulp sci-fi sensibilities: sex, violence, and, most notably, a profound moral ambiguity. At turns sweet-talking, bullying and manipulating your way through the galaxy can become an intensely paranoid and isolating experience. In addition to disintegrating individual characters – the fate in store for your wayward clones – the game allows, and indeed requires, the destruction of entire planets at the touch of a button (accompanied by a silent, ghoulishly beautiful fractal apocalypse). It's a credit to the game's atmosphere that your genocidal odyssey is so clinically detached, so tangibly alien, that it never becomes too harrowing to play.

There are flaws: missing a vital conversation clue or set of coordinates can bring the plot to an irretrievable dead end. The game's underlying linearity becomes more apparent after several failures, or conversely, a single success. And the desire to explore and experiment is handicapped by the imposed time limit of Blood's deterioration. But even if it fails to realise the full potential of its concept, Captain Blood remains a unique and strangely affecting space oddity.

Edge rating: **Seven** out of **ten**

Yoko (below), a peaceful alien who tries to help Captain Blood, is one of the Izwal race. There are 120 icons in the game, each one corresponding to a word. Together they produce an illusion of intelligence

Alien nation

They don't make them like they used to. Almost 15 years since Captain Blood's release, there is little to compare it to (largely ignored 1994 and 1997 PC sequels fell short; arguably only Origin's Bioforge has come close to replicating the sense of alienation). Experienced today, its shortcomings are more glaring, and its influences dated, but the bold self-assurance and polish stand up to scrutiny. Dedicated followers of eye candy owe it to themselves to see the infamous hyperspace sequence at least once.

Pilotwings

● Format: **Super Famicom** ● Publisher: **Nintendo** ● Developer: **In-house** ● Release: **1990**

Typical Nintendo comical touches grace the game's more tragic moments. Forget to open your 'chute and see for yourself

Top fun

Visually the game has clearly aged in 12 years. The elementary nature of the flight dynamics is also unquestionably apparent although you could easily argue a strong case for the jetpack missions which still convey a sense of inertia unrivalled by the majority of contemporary games. Perhaps the most indicative facet of the classic status of *Pilotwings* is the fact that over a decade later, other than Nintendo's own (arguably significantly different) sequel, there really hasn't been anything to match it, either in terms of context or, even more remarkably, playability.

Pilotwings is an effortless demonstration of the Super Famicom's power: the moment you slide the power button on the logo comes spinning out of the horizon as a Mode 7-engineered bitmap. From thereon in only the post-level scoring screens are devoid of this sparkling technique.

Far more than just an aesthetically gorgeous, highly impressive technical demo, however, this is a sublimely (re)playable and exquisite slice of interactive entertainment. Based around a flight school concept, you face increasingly difficult tasks initially involving skydiving and light aircraft control, but soon also incorporating hang-gliding and jetpack flying. Progression to the next level is granted once a certain points target is reached. With each category allowing a maximum of 100 marks, how you achieve the required final overall score is

down to you: the game's structural appeal lies in the way it allows you the freedom to capitalise on the skills you fare better at in order to compensate for your weaknesses elsewhere.

Regardless of the various minimalist control method for each of the activities, the principle remains the same: complete the task in the shortest time possible (eg, fly through rings dotted around the sky or under perilous arches on the ground in the plane; skydive through a sequence of similar rings before opening up your chute; ride the thermals in your glider until a specific height is reached; float through targets closer to the ground with your jetpack), then touch down as close to the centre of the landing zone.

The higher you soar up *Pilotwings'* eight flying classes, the harder NCL's designers push against you: wind adds a significant

layer of complexity; landing areas become increasingly smaller; the room for error decidedly narrower. You'll relish your increasingly demanding role, however, continually looking to improve your score, to hone your skills. When they occur, mistakes are invariably attributed to your lack of coordination, never the game. Very few developers are capable of toying with a player's frustration threshold the way

Nintendo can, its designers possessing an innate understanding of how much to push, with an acute awareness of the point at which challenge turns to anger, of just how far is too far. Even fewer developers manage to introduce an entirely new gaming concept and make it this supremely entertaining.

Edge rating: **Nine** out of **ten**

One of two 'bonus' combat missions – the only time the game's balance comes under question. The jetpack missions (right) also allow the view to be switched to topdown, particularly useful when judging your exact position during landings. Most levels offer moving platforms for the more daring pilots looking for the extra challenge. Nintendo has made brilliant use of the Super Famicom's Mode 7: environments are excellent

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Since the launch of the Game Boy in 1989 some 450 million games have sold for the format (in both mono and colour variants). Over 1,000 games were developed for the machine between 1989-1999

Sonic The Hedgehog

● Format: **Mega Drive** ● Publisher: **Sega** ● Developer: **In-house (Sonic Team)** ● Release: **1991**

Novel touches are predictably mixed in with traditional platforming elements (top). Spring Yard Zone (above) is a giant pinball-inspired and occasionally frustrating level. Secret areas abound

Meet the new face of Sega. Losing the 8bit race to arch rival Nintendo – the Kyoto giant now firmly personified in the minds of players by the image of a short, moustachioed plumber – has spurred Sega on to come up with a Mario nemesis and, given the unprecedented marketing support *Sonic The Hedgehog* is enjoying, the company seems set on adopting the swift, spiny, blue mammal as its official mascot.

The rivalry runs deeper, of course: *Sonic* clearly and quickly reveals itself as its parent's answer to NCL's phenomenally successful *Mario Bros* franchise, while Yuji Naka, head of the newly formed Sonic Team internal development studio, is rapidly gaining a reputation within videogaming circles as Sega's answer to Shigeru Miyamoto.

However, their styles naturally influenced by their respective corporation's gaming philosophies differ significantly. You'll find little of the depth associated with Nintendo productions here, though much of the immediacy of Sega's arcade heritage is evident. *Sonic* dazzles you with its speed and fluidity, entire levels scrolling by at a hitherto unmanageable pace – the blur of colours leaves you precious little time to admire the obvious proficiency of Sonic Team's artists.

The designers haven't lagged behind, though, presenting a control dynamic as elegant as it is simple. While additional, context-specific actions do emerge, you are essentially limited to two actions: either roll Sonic into a ball to negotiate rollercoaster sections of levels at higher velocities than the hedgehog's (already) speedy legs will carry him or jump into a ball in order to deal with the enemy – animal robots created by the evil Dr Robotnik. When spiked these release rings that you're charged to collect, both for points and protection: unless you fall off the screen, into lava or drown, collected rings act as a safety net, dispersing every time you're hit and allowing you just a few seconds to regain as many as you can.

The game's six zones are split into three acts each, with a battle with Dr Robotnik at the end of every third act. Dotted around the areas are power-ups (speed up, shield, invincibility, extra life) and secret areas that do much for the game's longevity. Another layer to the experience is the Secret Zone, access to which is granted once a certain number of rings has been collected. Six of these surreal rounds exist, each offering the opportunity to collect a Chaos Emerald. You won't finish the game properly without them.

While its charms can be superficial, *Sonic The Hedgehog* delivers an exhilarating experience packed with charming, novel touches to ensure that it distinguishes itself from its competitors. All Mega Drive owners should sample its delights.
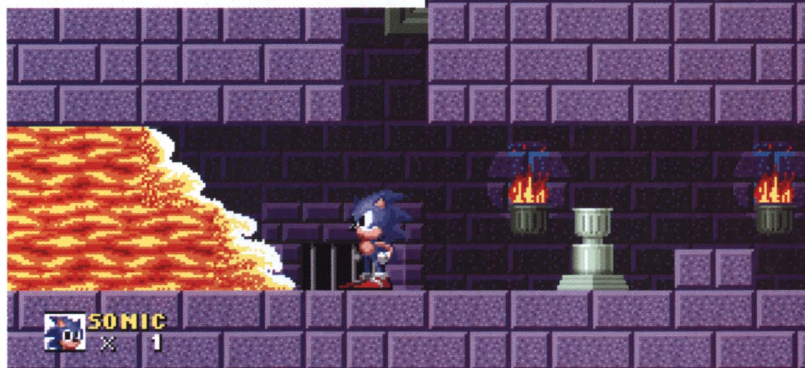
Edge rating: Eight out of ten

Away victory

So it turns out that he did become Sega's mascot. *Sonic* is credited as being the catalyst for Mega Drives finding their way into so many western homes, ensuring Sega would go on to claim victory of the 16bit era there, and the franchise became the company's premier brand, spawning a healthy number of sequels and spin-offs.

Happily, the years have been good to Sonic's first adventure. Its heavily stylised nature ensures that the visuals have barely aged and, while the gameplay feels shallower now, it remains an enjoyable – if nevertheless limited – ride.

Levels have clearly been designed to exploit Sonic's speed (above). The dream-like bonus round (left)

Powerdrome

● Format: **ST, Amiga** ● Publisher: **Electronic Arts** ● Developer: **Michael Powell** ● Release: **1989**

Tunnel sections provide stern challenges early in the game as you attempt to get to grips with *Powerdrome*'s handling

A tricky business

The cantankerous grandfather of the future-racer genre, *Powerdrome* will be an exercise in unremitting sadism from start to rapid finish for the modern gamer. Returning old-school pilots will be pleased to know it's like riding a (tenuously balanced) bike: after a few hours' acclimatisation the old thrill resurfaces. While its po-faced aesthetics are far removed from the neon lights and clubland anthems that now define the genre, it has much to offer that's sorely missing from the racers of today. The difficulty, though, might be best left to history.

L et's make one thing clear: *Powerdrome* is an enormously clever game. Conceptually it shunts the racing genre into the space age; mechanically, it brings true three-dimensional movement to the three-dimensional racer. Despite the futuristic trappings, there's a solid race model underneath, immediately evident from a tune-up menu where your craft's handling can be tweaked to suit track conditions and play style. The half-dozen tracks range from a reassuringly flat speed-run oval to progressively more labyrinthine offerings. Happily, a solo practice mode is available for each track before committing to a race against the four computer-controlled craft.

So far, so great. And the in-game graphics convey the sense of speed and the vertiginous depths of tunnel sections admirably. If there's a fault to be found with

Powerdrome, it's that it may be too clever for its own good. Controlling your ship is such an unrelentingly precision affair that your first attempts will involve careening from wall to wall and becoming familiar with the damage model all too quickly (scraping off the wings, naturally, exacerbates the handling problems). There is no arbitrary levelling off of altitude or facing, often resulting in complete disorientation after colliding with a section of track. While the Amiga version makes some redress with optional flight aids for centering the craft (at the cost of reduced speed), ST owners are left in the deep end without so much as a cheery wave.

Indeed, the complete absence of player reward in these early stages – it's catch up or give up – turns the learning experience into one of grim perseverance. Many players may find the line between challenge and

frustration has one too many hairpin bends and looping tunnels. Those joining *Powerdrome* for the long haul, however, will find it an ultimately rewarding experience far in excess of any previous racer. Every blown engine on an afterburner slide through an underground chicane, each second shaved off a lap time, each race started in pole position after a split-second qualifying round victory – these are sublime gaming moments.

But they are also well concealed by the punishing initial impressions – it's obvious from the outset that *Powerdrome* is a great game, but somewhat less so that it's a fun game. Less patient players would be advised to look elsewhere, but may find themselves disappointed with the earthbound nature of comparable racers.

Edge rating: **Eight** out of **ten**
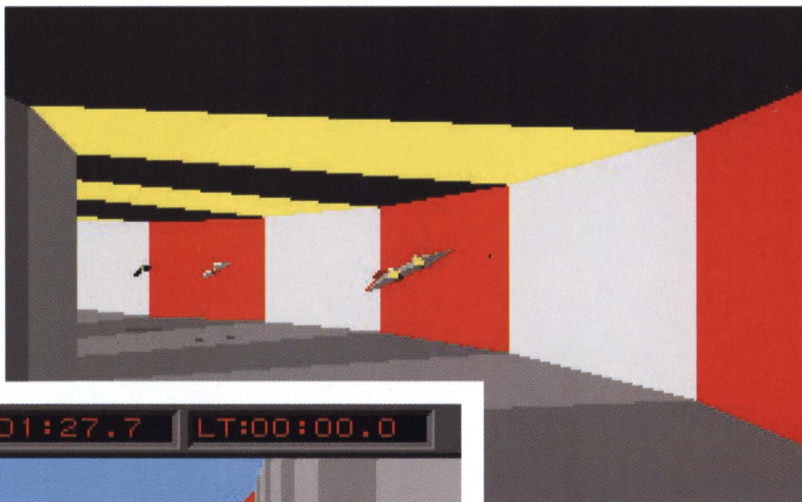
In an odd way, *Powerdrome*'s visuals bring to mind Geoff Crammond's *Stunt Car Racer*. But this is an altogether more futuristic experience, and one that could pave the way for similarly styled airborne actioners in the future

The first media backlash against violence in gaming concerned Exidy Inc's *Death Race* in 1976 (inspired by the Roger Corman film 'Death Race 2000' from the previous year), in which players mowed down zombified pedestrians for points
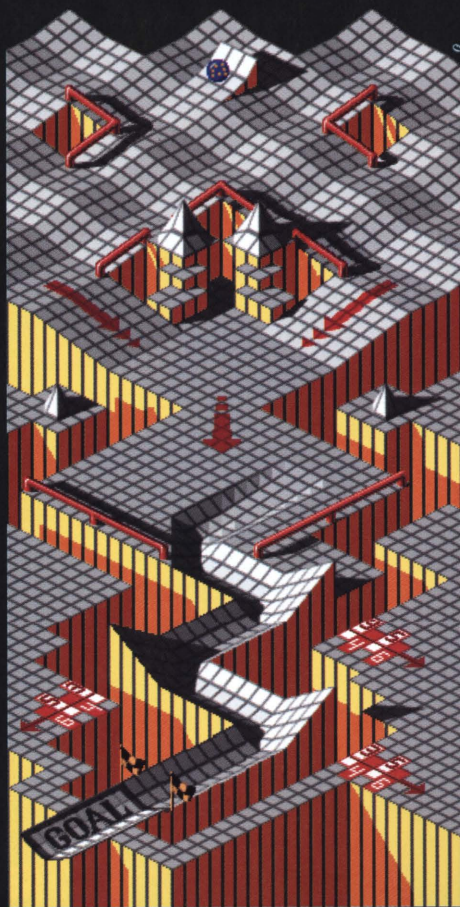
MARBLE MADNESS

Retro looks back on the creation of a classic 1980s coin-op whose unique stylings and control system put a new spin on arcade gaming

Original format: **Coin-op**
Manufacturer: **Atari**
Developer: **In-house**
Origin: **US**
Original release date: **1985**

The mid-'80s was a difficult period for the arcade industry. The magic of the late-'70s, when arcade gaming was so fresh, had long passed, and the scene had begun to plough a rut. "The coin-op business was in perhaps the worst year it ever had," attests **Marc Cerny**, creator of *Marble Madness*. "We had one of the top-selling games of 1985, and we still only sold a few thousand units. The release was terribly, terribly small."

In some respects you can appreciate why the game may not have been the most immediately attractive experience to the arcade-goer accustomed to early arcade staples whose premise most often concerned repelling wave upon wave of alien adversary: there was no joystick on the game's cabinet, nor any form of fire button. Instead, players were encouraged to almost *be* the ball, manipulating the onscreen marble by alternating between delicately tickling and then madly swishing the machine's trackball controller in an attempt to manoeuvre from point A to point B while avoiding a series of decidedly obtuse obstacles.

The arcade industry of 1985 was a many-tentacled beast still experiencing growing pangs. No one working within it knew how videogames ideally should be made – or, indeed, pushed forward – because everyone involved was working to his or her own independent and sometimes naive agenda. So Atari at the time was an unusual place. "It was pretty surreal," Cerny explains. "For one thing, a project team in those days was a single individual, a programmer who was also expected to design the game and create all of the artwork. And the coin-op market is – and was – brutal; a consumer can check out your game for a single token, and you can't pre-create an audience through marketing, as is done commonly these days with consumer games. So when we were mostly finished programming our games, we'd put them on test at a local arcade, and if they failed to earn enough quarters or tokens in their first weeks, they would be cancelled. Over half of the games created at Atari met this fate, regardless of who created them – even the legendary Ed Logg [creator of *Asteroids*, among other titles] was alternating publishable games with cancelled ones.
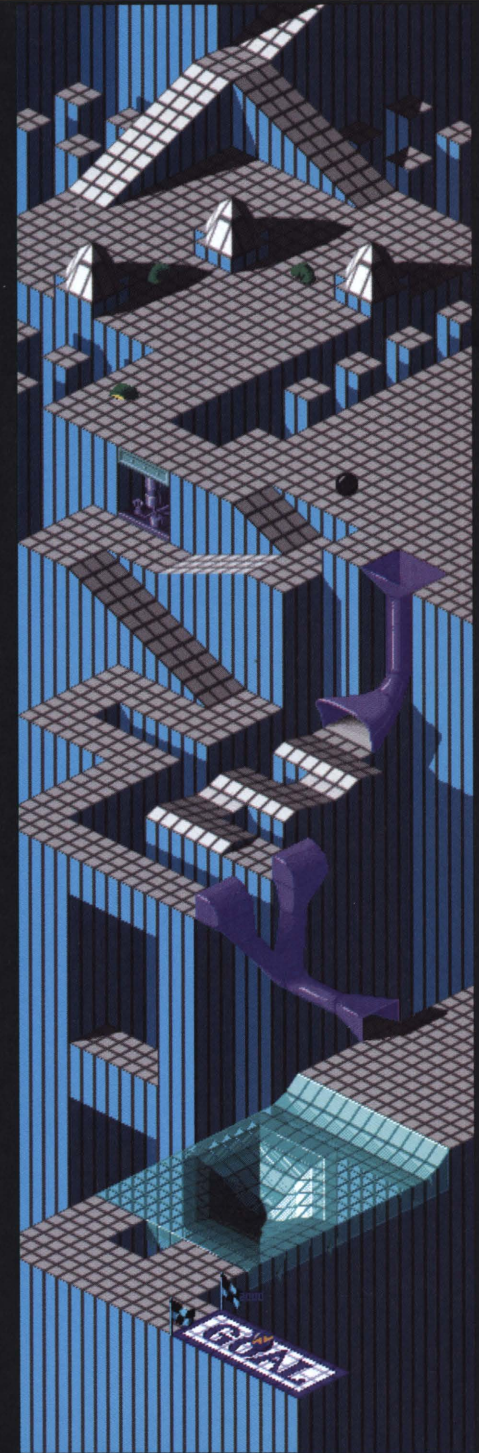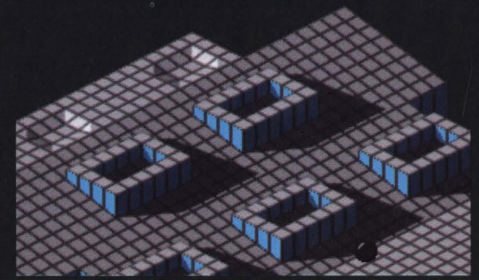
"So you joined the company, and they sat you down at a computer, and you tried to make a game. And then you faced the 'freshman jinx': every first game, by every programmer ever hired at Atari – including Ed Logg – was a failure. This jinx lasted until *Crystal Castles*, which was Franz Lanzinger's first game.

"Another amazing fact about Atari was that the games we made were required to be unique. If it had been done anywhere else before, in any form, then we couldn't do it. This is akin to saying, 'Well, there's *Street Fighter*, so don't make a fighting game because that wouldn't be original'. I've never seen anything like this attitude since, and I have to say that the 'Golden Age of the Arcade' was richer because of it."

So Cerny had to come up with something new. The result came from a strictly visual influence, as the designer recalls: "I'd been fascinated by 3D graphics for many years, and I wanted to make a game with some dimensionality to it. The available technologies for 3D in those days were wireframe, like *Tempest*, or made up of a small number of flat-shaded polygons, like 1984's *I, Robot*, both of which had severe drawbacks. I looked around for alternatives and decided to go with isometric graphics on raster hardware. But what to do with these isometric graphics? My first thought was a sort of miniature golf, where a ball would be guided to a hole in a puzzle fashion by placing bumpers and other devices in its way. Unfortunately, that had very limited interactivity for the player, so ultimately I went with direct control of the ball, through a trackball.

"The biggest inspiration for me was MC Escher's incredible artwork, where he plays with geometry and uses his special kind of fantasy. In my case, the aesthetic was a little different; it had to do with a sort of abstract 'purity'."

Typically for such a beautiful game, the production of *Marble Madness* was less than orthodox. "I put the design together in a month or so in early 1983. It was a lot of fun, and very collaborative; I'd draw some pictures, or come up with some ideas, and then go around the office and see what everyone thought," says Cerny. "I then went and helped Owen Rubin with *Major Havoc*, and returned to *Marble Madness* a year later. Amazingly, that year away didn't obsolete the design."

Turning an inspired idea on paper into something tangible proved difficult, however. "The great difficulty was constructing the game on the designated hardware," explains Cerny. "At first, the game was to have had custom hardware, which would have made the task much easier, but unfortunately at that time Atari shifted over to System hardware, where multiple games used the same basic board."

Atari's newly conceived System 1 coin-op architecture, which would be used thereafter in cabinets such as *Roadblasters*, was flexibile yet quite powerful,
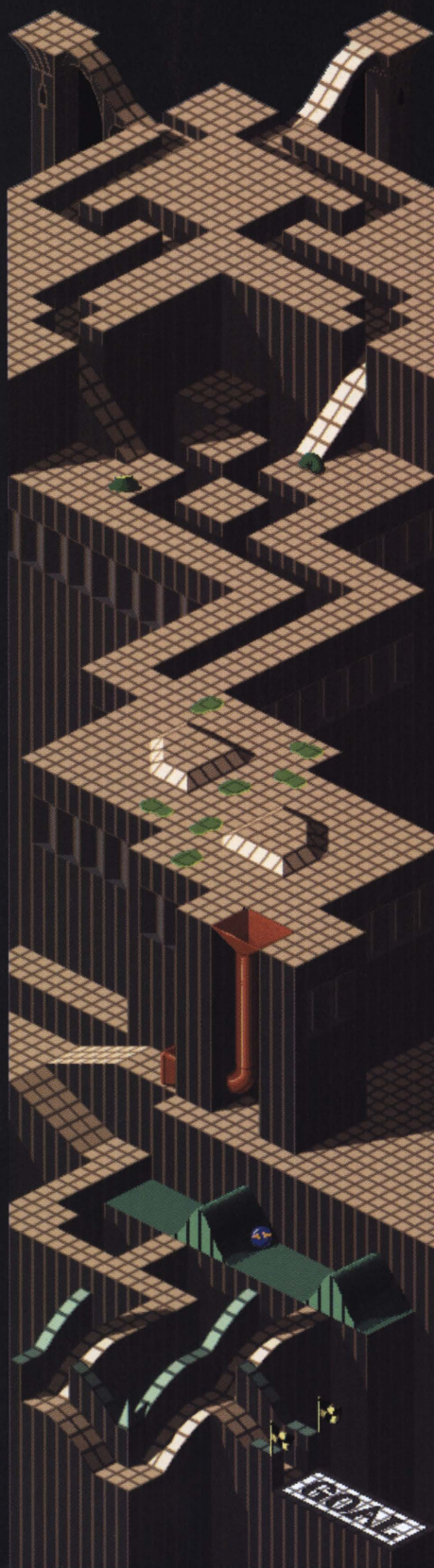
offering a 68010 CPU, 336x240 resolution and 256 colours. Cerny now concedes that the hardware really wasn't so restrictive, but he still recalls difficulties: "Things were good, because Atari was designing a low-cost, high-capability board around a custom graphics chip, but disaster struck again when the lead graphics chip engineer quit unexpectedly, so in the end the game needed to be made on a fairly generic scroll plane and sprite hardware. So, ultimately, I had to give up on realtime generation of the playfields, and simply display pregenerated graphics. This meant I couldn't play certain gameplay tricks – the wave in the third level had to be a sprite-based graphic, not a distortion of the playfield grid, for example – but at the same time, the background graphics could be much stronger. To create these backgrounds, I first raytraced a height map, adding shadows and oversampling. The artist, Sam Comstock, then added overlays such as rails and pipes, and surface effects such as ice or corrugation."

Marble Madness really was the complete package to the mid-'80s gamer looking for something a little different. Its soundtrack alone – a mysterious, strangely winsome and yet dark series of musical arrangements punctuated with an array of quirky plinks and plonks which perfectly matched the off-kilter action playing out onscreen – marked it out as a special videogame, while the gameplay teased you with a head-spinning selection of environments populated by genuinely bizarre components put in place to halt your progress.

One of the key benefits enjoyed by Atari creatives working in the *Marble Madness* era was that they were able to enjoy being just that – creatives. Others clearly played a part in bringing the company's coin-ops to market, but not at the expense of artistic vision. Cerny recalls this with fondness: "Part of any dedicated arcade game is the cabinet artwork – usually the backlit 'plex' above the monitor, the control panel, and the art on the sides of the cabinet. To me the most unique part of *Marble Madness* is the aesthetic purity; this experience lies outside of our world, and anything too recognisable has no place in it. So what did the cabinet guys do? They drew smiley faces on the marbles to make them more 'accessible'! Luckily, I managed to talk them out of this for the production run, so the only cabinets with that artwork are the ones we used for location test."

Cerny now works as a consultant, having recently had a big hand in the PS2 titles *Jack & Daxter* and *Ratchet & Clank*. He has mixed emotions about now and then: "I miss my friends from those days greatly, and the 'old days' of coding not at all. The pressure and stress were otherworldly; I joined Atari when I was 17, and three years later, when I was 20, I was getting lots and lots of grey hairs. I know that Atari stress was the cause, because a year after I left my hair was back to solid brown."

Space Invaders creator Taito (meaning 'far east' in Japanese) was founded in 1953; it was the first company to brew Japanese vodka

As the first title to use Atari's System 1 hardware, *Marble Madness* was something of an experiment. The technology definitely had its limits, but its ability to handle 256 colours at a crisp resolution made for a visually arresting game
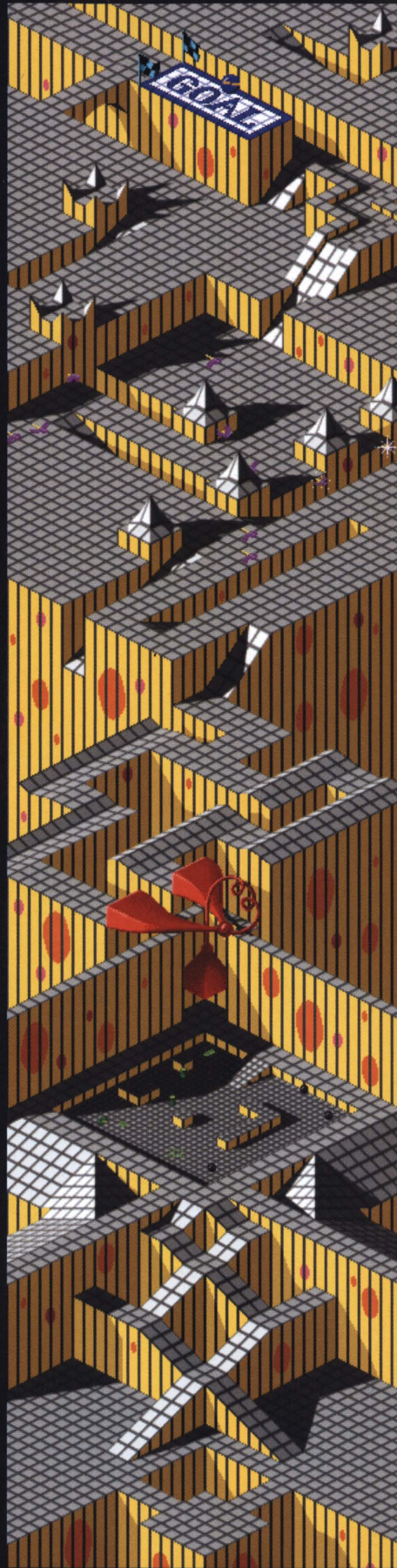
"Games had to be unique. If it had been done before, in any form, we couldn't do it. That's like saying, well, there's *Street Fighter*, so don't do a fighting game"
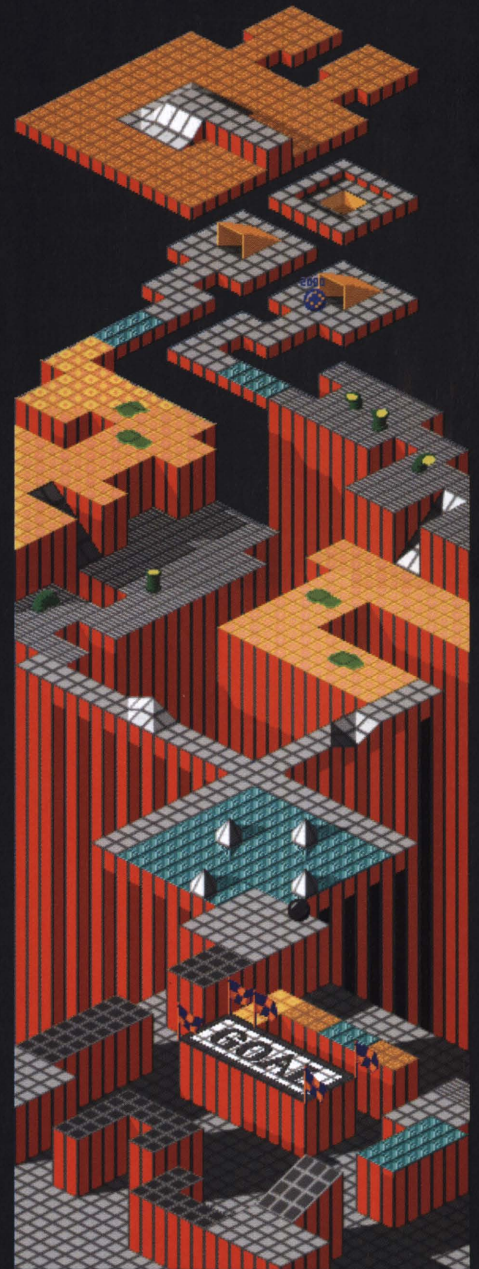
Win a coin-op!

Now *there's* an excuse to use an exclamation mark

Arcade Warehouse assures **Retro** that this *Die Hard Arcade* coin-op will fit through a normal doorway. It's fully JAMMA compatible, too. So what are you waiting for?

About Arcade Warehouse

The coin-op retail business from the public's perspective has a reputation for being something new, but Arcade Warehouse has been around for seven years. Eighteen months ago the company moved to a new HQ which serves to underline how serious it is about providing a comprehensive service to those wishing to collect their own slabs of arcade hardware – it covers 5,000 square feet and contains pinball tables (60 were in stock at the time of writing), jukeboxes, cocktail and upright cabinets, and even specialist machines like dance games.

The company's main custom comes from sales of genuine retro items such as *Asteroids*, *Defender* and *Pac-Man*, although it has recently taken delivery of what it calls USA Classic units, which are tabletop machines featuring a 20" monitor and the capacity to run hundreds of JAMMA titles. You can see it, and countless others, at the company's Web site: www.arcadewarehouse.com.

1 2 3 4 5 6 7 8 9 10 11 12

So you particularly liked the part of **Retro**'s Obsessive feature that focused on collecting coin-ops for your own home. You've had a quick scan of ebay. You've shortlisted a few cabinets that'd look especially at home in your gaming room. But what's that? That, dear reader, is the sound of your parents/partner/conscience (delete as appropriate) smashing your plans into little pieces. Because, let's face it, there can be more important things to spend money on than something as frivolous as your own coin-op.

But wait. Here's your opportunity to install a whopping great machine in your own home without having to pay for the privilege. Thanks to **Retro**'s friends at Arcade Warehouse, we're giving away a stand-up *Die Hard Arcade* machine (with twoplayer capability, a 26" screen, and full JAMMA compatibility) to the reader who can: a) identify each coin-op pictured left from the tiny section of screenshots shown, and b) convince us why you deserve to win it.

First, get your screenshot answers together. Then, in no more than 20 words, complete the phrase: 'That *Die Hard Arcade* cabinet simply must be mine because…'

Now write it all down and send it to '**Retro** competition' at the usual **Edge** address (30 Monmouth Street, Bath BA1 2BW) or send it via email to edge@futurenet.co.uk.

Who knows? In a relatively short space of time you could be taking the first tentative step to building a collection to rival that of Archer Maclean's himself. Good luck.

Competition rules

1. Employees of Future Publishing or Arcade Warehouse, or their families, may not enter.
2. Closing date for entries is Jan 11, 2003.
3. Multiple entries are not allowed.
4. A coin-op of equivalent value will be given in the event of *Die Hard Arcade* not being available.
5. The editor's decision is final and no correspondence will be entered into.

Asteroids was the first game to allow players to input their initials into a hi-score table. The highest possible score on *Pac-Man* is 3,333,360. *Robotron 2084* was the first arcade game with a nine-figure scoring system

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