

Philosophy, Fantasy and Film



American McGee's Alice
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Ten *Real* Years of *Virtual* Worlds: 1993-2003

...and the shape of things to come

This lecture is the first segment of a two-part discussion on how contemporary trends in the advancement of computer technology, hardware and software, are aiming toward deeper immersion into cyberspace – an evolution that is beginning seriously to question the traditional boundaries between the real and the virtual. This first half takes a close look at computer games development over the last ten years as a prelude to a seminar (in the second part) on the possible future direction of this technology and the way in which it appears to be inseparably entangled with the evolution of humankind itself, which now seems to be on the brink of a radically new phase of existence. In the seminar, we shall discuss two films that explore the possibilities of virtual worlds and the ways in which the common-sense distinctions between fantasy and reality are gradually being eroded and how current technological progress is increasingly smudging their boundaries: *The Matrix* (Wachowski Brothers – 1998) and *eXistenZ* (David Cronenberg – 1999).

Note: The quality of the linked video trailers does not necessarily reflect the graphical quality of the games. I have endeavoured to find videos of actual game-play, but this was not possible in all instances. Like so much in this medium, the availability of cinema-like trailers for computer games is a relatively recent phenomenon.

1. The Medium of the Unreal

In the mid to late 1970's, the first video games for home consumption were developed for the console market. The game console is a unit that is specifically designed to play video games by displaying them on a television set. Beginning with very simple games like video tennis, which consisted in a little white dot bouncing around against a black background, the technology eventually developed the capability to generate more graphically sophisticated games like *Asteroids*, *Space Invaders*, *Pacman*, etc. All of these early games were two-dimensional.

The primitive state of the early technology lent itself more easily to what we may call the God-Like perspective (including the early chess games of the time) – that is, flat or isometric side-scrolling, or up-down-scrolling, according to an overview that looks down from up above. Strategy games usually take this form and the contemporary genre still uses this perspective with various modifications, e.g., *Command and Conquer*, *Civilization*, *Sim-City*, etc. In these games, the player controls virtually every aspect of the computer-generated world. In many cases, they allow one literally to play God. The quintessence of this mode of game-play is *The Sims* – the single most popular computer game series of all time (or should it be said ‘thus far’? – since it makes little sense to eternalize and thus reify a force that is transcending itself in terms of its evolutionary movement into further possibilities).

The 1st and 3rd person perspective revolution in video-game playing is a more recent development. Phenomenologically and existentially, there is something far more seductive and compelling about these orientations. They allow a more intimate involvement with virtual cybernetic worlds than that of the outside-in God-like perspective precisely because they literally place the player ‘inside’ them. However, these perspectives, in their use of cinematic visual, auditory, and narrative forms, rely heavily on high quality graphics and three-dimensional software engines. Ironically, the earlier two-dimensional base level technology required that we begin with the omniscience, omnipotence, and omnipresence of God. Technological advancement eventually came to permit the fall from such Absolute grace by localizing the player *in* virtual time-space instead. It represents a shift from exteriority to interiority – from non-positionality to *positional involvement*. The intertwined issues of positionality and immersion in relation to computer generated virtual worlds, by virtue of the development of 1st person and 3rd person perspective technology, operates as the linchpin of this lecture.

The video arcade phenomenon (large halls or malls that provide coin operated gaming platforms) took the graphical capabilities of the gaming genre into new dimensions (particularly the 3rd dimension), which inevitably led to its advanced technology being incorporated into next generation home consoles. There have also been other developments in video arcade entertainment that extend beyond the visual elements as well – e.g., the addition of a tactile dimension in which one is brought into kinæsthetic synchronicity with the virtual environment by means of hydraulically operated seats and carriages that simulate rollercoaster rides, flight combat, paragliding, motorbike or car races, etc., thus augmenting the visual input with the aim of creating a more immersive experience. We shall return to this multi-dimensional or multi-sensorial area of cyber-spatial development at a later point in this lecture – in anticipation of the second segment that looks at the degree to which such technological evolution is revolutionizing the way in which we are beginning to engage with the classical distinction between the real and the virtual.

The development of games for the personal computer (pc) was a rather slow process by comparison – I say ‘by comparison’ only, since the overall speed of advancement in computer games technology has been, and still is, astonishing – so much so that as I present this lecture today it is already out of date! Contrary to popular belief, it was never actually a case of home console technology being more advanced than that of the pc, it was just a case of better speed and graphics due to the specialization of its components. Pc's, by contrast, have always had to perform a diverse range of functions. It was only at the beginning of the nineties when the 386 processor arrived on the market that the pc began to show its potential as a games platform, with top selling games like *Wing Commander* (a space combat simulator), Microsoft flight simulators, and a range of other quasi-3D programmes. The 486 processor improved this situation even more dramatically, and when the Pentium (586) processor was finally introduced – along with cheaper RAM, Microsoft's Direct X and plug and play capabilities, and the increasing proliferation of more and more powerful pc specific video cards – the pc finally began to rival and then surpass the home-console in terms of its graphical capabilities.

Since the home console (e.g., Playstation, X-Box, Game-Cube, etc.) is a highly specialized games unit, up until very recently, it has lacked certain features that have made the pc a much more powerful and versatile medium. For example, games for consoles are generally controlled by what is known as a gamepad, although one can also use an analogue joystick with certain games. A gamepad is a rather limited digital device with several buttons, each of which has a specific function for controlling the action in a game (the latest gamepads now have extra analogue functions attached, such as mini-joysticks with force-feedback, which adds a tactile dimension). By contrast, the pc, as well as being able to use all these control devices, has a keyboard and mouse; thus, it has a greater range of complexity for inputting data and manipulating game control. Although it is now possible to attach keyboards to some of the games consoles, they still do not come as a standard feature – thus, console games programmers often limit the control interface to that of the simpler mode of the gamepad (which can be an irritating limitation when potentially good games are adapted for the pc). Furthermore, the pc, unlike the console, has a more creative dimension since it provides the capability to write or modify software, whereas the latter is designed simply to play games. But, perhaps the most significant attribute of the pc, in terms of the extraordinary rate of development of games technology over the last ten years, is its internet capability (which is only now beginning to be incorporated into consoles). It looks as though the pc and console industries are moving toward increasing homogeneity as the demands of internet access reconfigures all the base lines for the next generation of computer applications.

But, in order to explain the significance of this capability, we need to begin with a particular little group of young games designers and the release of an epoch-making game. In December 1993, a game that was developed for the pc (at the time of the 486 processor) changed the world of computer gaming. It was called *Doom*. The name of the company that produced it was, and still is, *id* Software.

2. The Emergence of the *id*

The *id* is the father of the ego-shooter – that is, the first person shooter (FPS). The word *id* is a Latin translation of the German word ‘es’ (in English – ‘it’), which Sigmund Freud used to refer to certain unconscious drives that motivate us at a primordial level of being, preceding the development of the ego (‘Ich’ / ‘I’). Thus, ‘I didn’t do it!’ one may cry; ‘It made me do it!’ It names a primal core of ourselves that is made up of primitive motivations, which the superego and society (as mediated by the ego) force us to bring under control. The expression *id* is a perfect name for a rogue gaming company that set out to break all the rules regarding what was acceptable in this milieu and to provide a cyberworld of ‘monsters from the *id*’ (recalling the classic sci-fi film *Forbidden Planet* [MGM, 1955], a Freudian re-telling of Shakespeare’s play, *The Tempest*) that permits the non-permissible.

Before the arrival of the games-developer *id*, pc game-playing had the reputation of being an old geek’s platform, primarily for flight-simulators and golf. However, this small group of young men in Texas changed everything. The history of the company is fascinating and quite extraordinary in terms of the impact that it has had – extending into domains far beyond the games themselves.

Id employed a unique marketing strategy that allowed complete creative control and the maximization of their profits – which involved releasing a portion of their game as free shareware, thus reaching considerably more people, who inevitably bought the full game (although piracy was a considerable problem). As well as designing groundbreaking 3D engines – which *id* also leases out to other game-developers – it has influenced the hardware technology of computer design. *Id* established the 1st person perspective style of game-play that has seized the imagination of the world’s gaming community (its engines have also been used for 3rd person perspective games, e.g., *Heretic 2*, *Alice*, and these days many games allow one to switch between these two perspectives, e.g., *Sin*, *Jedi Knight 2*, *Morrowind*, etc.). And, *id*’s games were the first to establish what has become a worldwide gaming network for cyber-gladiatorial combat, known as ‘Deathmatch.’ This is a virtual arena where pc players can engage in combat with other pc players on the internet – a highly competitive and lucrative occupation that has come to be known ‘cyber-athletics’.

To a great extent, *id* has also been one of the major influences for the rise in computer literacy amongst the younger and the older generations. By releasing the source code of its 3D engines on the internet, it enabled those who were suitably inspired to adapt elements of its games, such as creating editors that worked with its open architecture, thus enabling virtually anyone to create new levels, to tweak certain gaming elements, and to share them with others on the internet. The free use of their technology also did more than just give people the opportunity to become knowledgeably acquainted with cutting-edge software design, it also pushed out the envelope of the technology itself.

This is precisely one of the main reasons for the lightning rate of development of games technology. By employing the vast resource of gamers (some of them geniuses) sitting alone with their pc’s, but connected with countless others by internet, the advancement of the technology has undergone an almost exponential increase in speed. *Id* made the technology freely available with the proviso that all the modifications were to be distributed freely amongst the community. This meant that the growing ‘mod community’ of increasingly literate amateur games-tweakers could pool their resources rather than get bogged down by proprietary rules, which would have slowed down the growth process. Of course, with this

constant horizon of feedback, *id* was able to employ these advancements in each new generation of its own game engines. Additionally, by making its source code generally available – in a certain sense, promoting it – *id* has also maintained its edge in the industry. As more end-users and amateur programmers are familiar with their 3D engine technology than that of other developers, this has naturally influenced many designers in their choice as to which 3D engine they should employ in the production of their games. The evolution of the mod community and its utilization by the industry itself seeded an extremely cheap and vast resource for further developing its technology. It has also produced a money-spinning nexus of related business enterprises that have evolved, by means of internet technology, into a new milieu of entertainment and a multi-million dollar industry that spans the globe.

So much for the revolutionary aspects of the gaming business itself – let us take a look at some of the essential games that fuelled the revolution.

3. *Doom, Quake, and the realization of Unreal*

The game, *Doom* was released in 1993. It is a fast-paced 1st person perspective game that employs a quasi-3D engine – developed by *Id*'s resident genius, John Carmack, who is about to unleash an all-new *Doom* engine and game, [*Doom III*](#), onto the computer gaming world. The story is classic: out in the new frontier of our solar system (Mars) a secret experiment has gone terribly wrong – creating a gateway through which unspeakable demonic forces have crossed over into our world. The player is plunged into a hellish scenario where the basic rule of conduct is to kill or be killed.

The first time that one enters this realm – transported through its 1st person perspective – one is drawn in by a desire to explore its open spaces, while admiring its topographical and architectural forms *as if* one is *inside* the virtual environment; experiencing an unprecedented freedom of movement that is an illusion created by travelling without actually moving. By pressing the forward key it *feels* as though one is moving forward, although it is actually the landscape that is scrolling past one's point of view. It is like looking out of the window of a train carriage in a station and being unable to determine at first whether it is the train on the neighbouring track that is beginning to move or one's own.

The believability of the environmental kinæsthetics also has much to do with the spatial and temporal grammar of cinema, which has had a profound educational effect on the deep-level perceptual capacities of contemporary (film and television oriented) humankind. We take this grammar for granted and can comfortably slip into a willing suspension of disbelief because of the way in which it structures our perceptions at a deep level. If it were possible to transport someone from a period preceding the invention and popularization of moving film (by means of a time machine) that person would find it very difficult to follow the sophisticated visual narrative forms with which we are so familiar. Consider the hyper-movement of MTV visual form – whose technical gimmickry represents the peak of the culmination of the many different advances of the cinematic and tele-visual era (20th Century), especially in the sphere of subliminal suggestion. Every moment is like a snapshot of an orgasm – an eternity in a micro-moment that quickly dissolves into another moment of super-visual fecundity – an unfolding visual frenzy of dizzying kinæsthetic dynamics, and

interlacing temporal rhythms and patterns that do not necessarily weave a linear space-time / time-space fabric. The differences between moments in a moving film need not always express linear succession, the narrative may unfold different phases that are running simultaneously, and these will have their appropriate signs. Understanding the subtle signs by which the present is indicated, rather than the past or the future in their manifold forms of cinematic expression, is not an a-priori. They are learned like any other language – and they are signs of their times, inscribing the historical development of a vastly complex, but subliminal audio-visual grammar that is indissolubly linked to different stages of our technological evolution.

It has been said that the young men of the early *id* were inspired by Sam Raimi's *Evil Dead* movies – not just in terms of the supernatural themes, outrageous carnage, and black humour, but also in terms of the visual grammar that these films employ. Sam Raimi, who just recently directed the film *Spider-Man* (2002), which coincides with the release of the game: *Spider-Man*, argues that the film-going audience is 'collectively' smart and he attributes the success of his films to his skills in employing the cinematic medium to tap into the grammar of that collective unconscious.

Anyone who has played *Doom* – gliding through its environments (inducing motion sickness, in some, the poor souls) – after having seen the *Evil Dead* films could not fail to notice how it emulates Sam Raimi's 1st person perspective moving camera technique in representing the demons' vision as they stalk and prey on their victims. It is a fundamental aspect of the 'feel' of the game (which is also the mark of *id*'s pre-*Doom* game, *Wolfenstein 3D*). I, like many other people who have played this game, have dreamt in gliding *Doom* motion.

Doom's level design develops from simple linear structures, utilizing basic spatial puzzles where one has to obtain keys to move further on or to kill 'Big Bosses' (the generic term for the super assailants that one has to defeat in order to ultimately win the game) to more non-linear environments that allow considerable freedom for the player's movements and strategies. Throughout the game as a whole, the player is bombarded by mindless hordes of satanic monsters in vast numbers and it is often the case that one soon runs out of available ammunition if one has not honed one's shooting skills – which includes accuracy, the ability to circle one's opponent (a combination of lateral movements with fine rotational movement by means of the mouse) and judicious use of one's immense arsenal by using the weapons that are most appropriate for the environment and type of engagement in play (e.g., refraining from using the shotgun unless one's opponent is reasonably close at hand and avoiding the use of the rocket launcher in confined spaces, etc.).

Doom's sheer buckets-of-blood-politically-incorrect-murder-and-mayhem was the principal reason for its instant success. But, there is more to it than just the single-player aspect of the game. When played on a network, players can challenge other human players to the cyber-spatial gladiatorial, high-adrenaline, fast reflex form of combat called Deathmatch. Of course, human opponents – with their capacity for complex strategy and unpredictability – by interacting through cybernetically generated avatars (the animated figures that represent their human counterparts in the virtual space of the game environment) are far more of a challenge than mere computer generated demons and their absurdly simple A.I. (artificial intelligence). Although, it should be said that in recent years A.I. has begun to reach extraordinary levels of sophistication.

Deathmatch is only one mode of the game's 'multi-player' capability. It is also possible to play cooperatively against computer-generated assailants and cooperatively against other human opponents. The original number of human players that could occupy a single game environment was four. With each successive upgrade patch for the game, which could be obtained by downloading the file from the internet, the number would increase exponentially – eight, sixteen, thirty-two, etc.

Doom-mania had a highly disruptive effect on the work-place and it became an in-joke amongst office-workers who sat at their pc's all day firing up the game whenever their supervisors were not watching. Inevitably, means were developed to monitor and restrict such unauthorized activity.

The sequel, *Doom II* (release date: 09/30/1994) was eagerly anticipated and it was a runaway success. The engine was slightly more advanced than that of its predecessor and, by the time of its release, there were already hundreds of patches available on the internet that had been produced by fans of the game, who had tweaked, augmented and, in some cases, even re-wrote it. Editors had been developed that accessed the database of the game, which allowed one to create new environments / levels, which were known as 'WADS.' The most famous editing utility was simply known as DEU (Doom Editing Utility) – and it was quickly adapted to tap into *Doom II*.

The only real rival to the *Doom* series was a game called *Rise of the Triad* (developed and published by Apogee – 12/21/1994) – although some might argue that *Descent* (developed by Parallax Software and published by Interplay – 02/28/1995) was also a contender. *Rise of the Triad* had its own quasi-3D engine and it incorporated a few minor graphical improvements, but it lacked the edge of *id*'s creation (it was also restricted to square architecture, whereas *id*'s *Doom* engine could create rectilinear environments). At this time, there was a great deal of feverish activity in the games industry to emulate *id*'s achievements and to push out the envelope of 3D environmental technology. *Raven Software* produced a game using the *Doom* engine, called *Heretic* (sometimes known as 'Doom in tights'), and later, *Hexen*. 3D Realms (a company that was put together to specialize in the new field of pc 3D games), was the first to seriously rival *id*'s *Doom* series with its game *Duke Nukem 3D*. It was developed with an in-house engine (based on *Apogee*'s complete re-write of the *Wolfenstein 3D* engine, which it put to excellent use in the game *Rise of the Triad*). However, just a few months after the eagerly awaited release date of *Duke Nukem 3D* (01/31/1996) *id* took the world by storm again with its first 'full' 3D engine and a game that was to achieve a similar classic status to *Doom*, but which produced a whole new generation of software virtual environment engine technology: the *Quake* engine.

Quake, the game (developed and published by *id Software* – 05/31/1996) employed the most advanced engine of its kind for the pc at that time. *Duke Nukem 3D*'s engine utilized an advanced rectilinear, quasi-3D engine that went considerably further than *Doom*, but it was technologically way behind *id*'s *Quake*. Nevertheless, *Duke* was a great success because of its innovative use of 'game-play' (there are quite a few different factors to be taken into account when assessing the quality of a game, e.g., playability, intuitive interface, storytelling, high production values, a fine balance between goal-oriented elements and non-linear dynamics, a reasonably challenging learning gradient, and a sufficiently compelling scenario to keep the player motivated to come back for more, etc.).

An explanation is required at this point about the difference between the quasi-3D technology employed in *Doom* and *Duke Nukem 3D* and the true 3D introduced by the *Quake* engine. The earlier games could not have rooms on top of rooms. In other words, although the x and z axes could have many different adjoining sectors stretching sideways, backwards, and forwards, the y axis (up and down) could only have one sector. *Id*'s level designers were extremely clever in working with the limitations of the *Doom* engine. In *Doom II* a few levels have considerably high buildings, and *id*'s team used remarkable ingenuity in contriving them in such a way that they are believable skyscrapers despite the fact that the designers were limited by the engine's one floor / one ceiling architecture. The design team for *Duke Nukem 3D* also had some ingenious tricks for creating believable 3D spaces, e.g., the capacity to submerge in water, which actually utilized the method of transporting one's avatar and point of view to an entirely different map that was designed to look as though it was continuous with (but beneath) one's previous spatial position.

With the advent of the *Quake* engine, the *Quake* games, and the many other games that were produced with *id*'s 3D software technology, including numerous modifications by an enthusiastic community of budding games programmers, the 2D sprites that were drawn for the characters in the earlier quasi-3D games were replaced by full 3D entities made up of polygons (which further fleshed out the virtual realms that they inhabited).

The mod community produced an astounding number of modifications for *Quake* and hundreds of amateur-produced levels. Complete game conversions became available, which were created with editors for the *Quake* engine that could import new textures as well as alter the physics – the most impressive of which was a game called *Malice* (1997 – developed by Ratloop under the name "Epochalypse" – published and distributed by Quantum Axxess). The energy and innovation behind its production owed much to what the development team had learned from online playing. It is also a fun single-player game, introducing elements that have gradually become standard in many contemporary mainstream games. There are entertaining little cut-scenes, a quasi-mission-based format, one can parachute, fly a hoverboard, and pilot a submarine. It sensibly introduced the requirement to reload one's weapons, which introduces an extra tension and care in one's comportment throughout the battles and brings one a little closer to real life – like having to remember to reload *before* getting into a firefight. It also combines a 1st person perspective with a facility to change to three other perspectives in 3rd person and it was also recompiled to run with 3D accelerators! It still looks good today (unfortunately, it has not been possible to track down a video trailer of this game).

By the middle of the 1990's the pc's capacity as a 3D gaming platform had begun to explode in many different directions. The game, *Myst* (developed by Cyan Productions and published by Broderbund – 1995) – a point and click adventure that utilizes a 1st person perspective with a quasi-3D landscape, but not a 3D engine, went on to become the bestselling pc game until it was overtaken by *The Sims*. The logical puzzles that weave their way throughout the worlds of *Myst* are fascinating, and the visual concepts are stunning, but it did not reach its full potential because of the primitive still-shot format with which it had been designed. Cyan eventually re-made it with a full 3D engine (published by Mattel, 11/14/2000) and it is truly beautiful (certainly worth re-visiting). The title of the new release is, appropriately: *RealMyst* – which gives a nice twist to the play between the real and the unreal in the realm of the virtual.

In 1996, the game *Tomb Raider* (published by Eidos Interactive [Eidos = Greek expression for shape, form, or essence]), which was originally developed by *Core Design* for the Sony Playstation, was ported over (adapted) to the pc. This game achieved legendary status and, with the help of its principal character, Lara Croft – always shown in 3rd person perspective (her delightful bottom in full view throughout the adventures that the player shares with her [including double holsters tied to her thighs, which subliminally suggest stocking tops or garters]) – it contributed to making computer games a mainstream form of recreation for a wide variety of people of different ages (and sexes) and not just a peripheral activity confined to computer boffins (in the case of pc's) or game-pad wielding children.

There have been many different instalments of the game *Tomb Raider*. With each successive incarnation, the environments have become larger and more complex. The character herself has undergone many changes, mainly in her appearance (which is rounder and less pixel-shaped) and in her range of movements. The game format involves different puzzles – owing much to the general feel of the Indiana Jones films – but most of them are resolved by the ability to make use of the character's numerous athletic abilities, when one has mastered the means of controlling her, rather than by one's intellectual acumen. One of the most important aspects of the games is the way in which they evoke a feeling of intimacy with the character, which genuinely encourages the player controlling her actions to care for her welfare. *Tomb Raider* is also one of the growing instances of computer games that have made the successful transition to film. Lara Croft is portrayed by the excellent Angelina Jolie on the big screen – and she has also been portrayed by a variety of models and actresses for publicity purposes (see the next link).

Lara Croft has become an icon for a whole new generation. Inevitably, a patch was produced and disseminated over the internet that allowed the game to be modified so as to render her character naked (a treat for the pubescent male puppet-masters, rather than her female players). Not surprisingly, this patch was called “Nude Raider.”

The power of the internet to evade censorship is both inspiring and a cause for some anxiety. The game *Carmageddon* (developed by SCi – publisher: Interplay – release date: 06/30/1997), which was inspired by the film *Death Race 2000* (1975), gives the player the opportunity to kill all their opponents and as many pedestrians as they can. However, the official release had to be distributed with zombies after the demo had originally promoted the game with human pedestrians that could be mangled beneath the wheels of one's car. Their substitution by zombies was the only way of getting the full game past the censor. People who bought it felt cheated and were enraged, but SCi simultaneously released a patch over the internet – which could be downloaded and installed in the game – that converted the zombies back into human pedestrians, thus satisfying the consumers while circumnavigating censorship laws.

In 1997, Raven Software, which is undoubtedly one of the most significant 3D pc games developers, employed a modified version of the *Quake* engine in its production of the classic game *Hexen II* (08/31/1997 – publisher: Activision). This was one of the first games to require Microsoft's Direct X – and its graphical quality set a new standard for the time. The story has a mythical setting in the past and explores magical themes in an Arthurian style. Many of its environments are conceived beautifully and the way in which it plays with the depiction of a singular architecture in two completely different time-frames – the classic Egyptian level – is brilliant. In order to solve the Egyptian puzzle, one has to move backward and forward through time. One of the most innovative elements in *Hexen II* has come to be

known as is its barrel design. Instead of moving in an irreversible linear sequence through successive levels, one has to move back and forth between a number of different levels – which are simultaneously connected by means of a kind of central pivot – in order to fulfil the mission and to be able to move on to the next stage of the story. Thus, there is a more non-linear feel to the game-play, although the game as a whole works toward a final resolution. This manner of designing levels has been incorporated into many new games. One of the reasons it has become a standard feature in games development is that it allows the possibility of breaking up vast spaces into manageable chunks for the central processor. The larger the space, the harder the CPU has to work (the issue of CPU economy will shortly bring us to the development of a massive new hardware industry). This manner of writing interconnected environments as discrete levels that still feel as though they are continuous in real space-time is a fundamental part of role-playing games development.

Heretic II (10/31/1998) was also developed by Raven, but this time in 3rd person perspective. The time-frame of this game is set eons before that of the *Hexen* series and shares its mythic and magical themes, but in a more Tolkienesque manner. The game (with the help of a modified *Quake II* engine) is a joy to play. Raven Software has done much to push the medium forward in diverse directions. The development team has produced a variety of different games, all of which have contributed something new to the genre (the series *Soldier of Fortune* takes graphical violence into the next dimension of visceral virtuality). Raven has also distinguished itself by having being commissioned to produce games for the two most prestigious film and television franchises of all time, *Star Trek* and *Star Wars*. The games, *Star Trek Voyager: Elite Force* (published by Activision : 09/19/2000) and *Jedi Knight II: Jedi Outcast* (published by LucasArts: 03/26/2002) are classics. Raven is also about to release another *Star Wars* adaptation, called *Jedi Academy* (forthcoming – 2003).

Computer hardware specialization and software production keep nudging each other forward. Each new Pentium processor that Intel has developed (providing new benchmarks for its competitors, e.g., Cyrix, AMD) has increased the pc's capacity as a gaming platform (more recently, AMD has made significant contributions to 3D games technology and, in some ways, their processors are in advance of the latest Intel chips). Ram became cheaper and hard drives grew in their capacity to store data. In parallel to this lightning-fast development, a new industry was beginning to emerge in the sphere of graphics card specialization (for pc's and consoles) – which has grown into an ongoing war between the giant GPU (graphics chip): nVidia and ATI. It is fascinating how the industry appears to thrive on the basis of competition that is somewhat like a kind of sport. In the early days, a company by the name of 3DFX had the lead in the industry – which utilized a quasi-Open GL technology that most games developers incorporated in their programming and endorsed at the market level ([Tomb Raider and 3DFX](#)) – for creating glossy visual effects. The company was eventually bought by nVidia.

The reason for the contemporary rise in graphics card manufacture has to do with the increasing sophistication of visual effect requirements that would otherwise overload the central processor of the pc. Graphics card specialization has truly freed the CPU for other tasks.

For some time, there had been much gossip about a game in development by *Epic MegaGames & Digital Extremes* that had been hyped to be the '*Quake* beater' – yet another manifestation of a kind of sporting impulse driving technology forward. In these terms, it turned out to be a serious contestant in the voting stakes just a little time after the release of *id*

's *Quake II* (developer: id Software – publisher: Activision – release date: 11/30/1997). Of course, this eagerly anticipated game with its own new in-house 3D engine represented far more than an “I can do better” alternative to *id*'s creation. The software programming made use of the recent development of Intel's MMX technology and incorporated sophisticated effects that could be achieved without the use of a specialized graphics accelerator card. And, when it ran with the new generation of cards (like 3DFX's Voodoo II) the game environments looked absolutely magnificent. The long-term development paid off because it introduced entirely new elements to the medium of 3D virtual reality. Considering the *virtual* nature of this realm, the game was just as appropriately named: *Unreal*.

Unreal (developer: Epic Games [formerly Epic MegaGames] – publisher: GT Interactive – release date: 04/30/1998), begins with one's character (in 1st person perspective) waking to the sounds of explosions and human screams inside the shattered remains of a prisoner transport ship (called, "Vortex Rykers"), which has crash-landed on an alien planet. The first segment is enormously atmospheric as one makes one's way through the damaged ship in order to escape to the outside. One emerges from the wreckage into a world of stunning beauty. The virtual environments in *Unreal* are huge, far larger than anything that *id* had produced in its *Quake* series of games. Furthermore, while *Quake II* employed certain economic strategies at a visual cost (e.g., returning to the *Doom* format of simple static skies) in order to free up resources for other elements of game-play, *Unreal* placed greater emphasis on believable natural environments, such as stunningly realistic (non-repeating) water effects, grazing animals, clouds moving through breathtakingly beautiful skies (populated by flying birds), etc. A musical score was specially written for the game, which was produced to be more organically interconnected with the visuals than anything that had been produced before. As one emerges from the prison-ship, one is dazzled by the sunlight and the sheer beauty of the landscape, while soft ambient trance music begins to pump out its rhythm in perfect harmony to the sounds of running water, birdsong, and other environmental audio effects. The game also shipped with its own editor – as designed by Tim Sweeney (who produced the 3D engine) – a packaging concept that has now become commonplace.

The release of the game brought a fresh breath of virtual air to the medium since its principal aim was to make its virtual environments seem as realistic as possible. The only noticeable flaw, in this regard, was the game's lack of character shadows. The *Quake* games had already been modified to produce such shadows with current graphics accelerator cards and this gave them an edge in the realm of believability. Although *Unreal* had complex and believable landscapes, the virtual characters retained their appearance of virtuality since they did not cast shadows within their environment. Ultimately, they did not look truly integrated into their surroundings. Even early games like *Tomb Raider* demonstrated the importance of character shadows, which were just simple dark blobs that followed the characters' movements. Shadow 'complexity' was not the issue, since a simple visual suggestion was enough to make it seem as though the environments were 'really' populated. This omission of a very simple but necessary visual suggestion in *Unreal* (despite its elaborate and visually spectacular treatment of environmental believability) echoed a general trend in animated productions that began in the 1950's and reached its all-time low in the 60's and 70's. Character shadows were even rare in Disney productions during this period. The original premise for what was undoubtedly a reason of simple cheap economics was that “...the audience doesn't 'notice' such details.” Perhaps this is true on a 'conscious' level, but what is most important here is the lack of consideration of the fundamental laws or forms that govern our perception at a deep subliminal level by providing the glue that binds foreground to background and gives the signs by which moving objects exhibit their *worldliness* (in a virtual

sense). That is, the signs by which they stand out as actual / believable 'inhabitants' of their world. Disney and the rest of the animation industry learned from the mistake and in contemporary times, there are fantastically complex shadow effects in abundance (thanks to advances in CGI technology).

The developers of *Unreal* were quick to avoid this less than obvious – but subliminally important – flaw in their later games and, together with their rag-doll technology and real-time shadow techniques, the latest incarnations have a truly integrated, organic, life-like quality about them.

The next stage in the evolution of the FPS (and 3rd person perspective) was a move toward the diversification of its modes of application into other forms of game-play. The games industry – in most of its aspects – was beginning to find itself being driven by 3D platform technology and the internet. The shift was as inexorable as the cinematic movement from the silent era to talkies and from black and white images to colour.

4. 3D Worlds in Abundance: the Need for Narratives and Multiplayer Mania

Over the last ten years, there has been a proliferation of many different modes of multiplayer gaming with an extraordinary advancement in the A.I. of computer-generated opponents. *Unreal* was released only five months after *Quake II*, but it had superior A.I. This was largely due to the talents of a particular member of the development team, Steve Polge, who was recruited after he had made a name for himself in the *Quake* mod community by designing a highly intelligent computer generated opponent called the “Reaper Bot” – with which players could hone their Deathmatch skills ‘offline.’ At last, computer generated opponents were more aware of their environment and attuned to certain dynamic conditions of their situation. They would no longer keep banging up against an adjoining wall because they did not have the sense to use a nearby door that would allow them to get to you. Now they were endowed with enough intelligence to retreat when their health level had dropped beyond a certain minimum value in order to collect power-ups, and then to renew their attack. One of the most outstanding features of the A.I. in *Unreal* and the later *Unreal Tournament* is the ability of the computer generated opponents to dodge one's attacks in ways that are context-driven rather than merely random dodging that creates the illusion of intelligent evasion.

The technology is gradually smudging the boundaries between different game types such as action, 1st person shooters, strategy, and role-playing: The *Unreal* engine was utilized in the production of one of the most outstanding examples of this synthesis: *Deus Ex* – the brainchild of Warren Spector (developer: Ion Storm – publisher: Eidos Interactive – release date: 06/26/2000). Role-playing puts the player into a virtual environment that allows interaction with its inhabitants. The degree of interaction ranges from dialogue (with multiple choices), bargaining, cooperation or belligerency to open-ended scenarios that give the player the feeling of extraordinary freedom and a sense of motivation that is built upon the requirement that one constantly needs to make choices. The 1st person and 3rd person perspective format has really brought the medium of the RPG into its own.

The previous year saw the release of the unbelievably interactive and psychologically disturbing RPG *System Shock II* (07/31/1999), which was developed by Irrational Games and published by Looking Glass. This was a brilliant sequel to the innovative early 3D game *System Shock* (1994 – developed by Looking Glass and published by Origin). *System Shock II* utilizes the *Dark Engine*, which Looking Glass used to excellent effect in the groundbreaking 3D action game, *Thief: The Dark Project* (11/30/1998 – published by Eidos Interactive). All three games are classics and they each established the fundamental a, b, c's by which so many contemporary interactive 3D virtual domain games are being produced. Eidos has distinguished itself by *shaping* many of the diverse applications of 3D technology that have been published for pc games. In *Thief: the Dark Project*, for example, the aim – far from being to kill everything that moves (the blood-fest style that is the proto-format of the FPS) – is to actually avoid detection, and ultimately combat, by using guile and stealth.

These influences undoubtedly found their way into one of the most astonishing games that has, so far, ever graced the pc platform – or any other platform for that matter: [*Half-Life!*](#) (developer: Valve Software – publisher: Sierra – release date: 10/31/1998). This game was the culmination of many different genres coming together within the medium of 3D. But, this is in no way to say that it is merely derivative. *Half-Life* established a whole new set of precedents when it came to the next level of standards regarding the development of the FPS, in terms of story-telling, game-play, and virtual-world interactivity. There are just too many details to consider when evaluating the multiple ways in which it made such an extraordinary impact on the collective imagination of an ever-growing community of 3D games players. The title of the game is meant partly as a parody of the lifestyle of this community – 'half a life' – but in artistic, technological, and financial terms, it also signifies its glowing longevity as the archetype of the story-driven 1st person perspective 3D action / adventure game.

Half-Life is powered by modified *Quake* technology and the game begins with an unforgettable monorail journey through the bowels of the Black Mesa complex – a research facility where scientists are dabbling in dangerous experiments with unearthly dimensions – to which the main protagonist has been assigned. It is interesting to note that in one sense *Half-Life* retrogressively tells the story that led to the scenario of invasion that characterized the plot of *Doom*. At the very beginning of *id*'s game, the invasion has already taken place, whereas *Half-Life* puts the player into a more intimate situation of involvement with the events leading up to it through the eyes of the central character – the bespectacled and goatee-bearded Gordon Freeman, Ph.D.

One of the most outstanding and original aspects of *Half-Life* is the degree of interaction with other characters in the game. Help them and they will help you. The other characters have a limited range of responses that add to the immersiveness of the virtual world into which the player (as Gordon Freeman) has been thrust as an unwilling and unsuspecting instigator of the disaster that ensues. Some of the characters will fight with you, help to boost your health or play a crucial role in providing advice and weapons resources (addressing the player in 2nd person mode). The other-dimensional aliens with which one comes into conflict are exotic and varied, but they are not the only aggressors. An elite group of marines has been sent in to kill everyone associated with the research project and to erase all evidence of the disaster. As Gordon Freeman, one has to survive through battles with humans and aliens and manage to find a way to close the inter-dimensional gateway by destroying the threat at its source. At the very end of the epic adventure when Freeman encounters the G-Man, the source of the true evil becomes a little less clear. Our hero is literally put into suspense to await...what? No doubt we shall find out in the forthcoming sequel.

One should also expect the sequel to have a vastly improved physics system. In the aforementioned monorail journey in the original game, there is a noticeable flaw: if one faces forward and jumps into the air inside the train as it is moving, then instead of landing on the same spot, one finds oneself flying backwards to the back of the carriage. No doubt, Einstein would have found this amusing. In a universe such as this, he could never have come up with the Special and General Theories of Relativity.

Two excellent add-on packs were developed for *Half-Life*, by Gearbox Software, which told the story from the different perspectives of other characters: *Opposing Force* (10/31/1999) and *Blue Shift* (06/11/2001). A single-player modification of the game was also produced, entitled: *Gunman Chronicles*, but the most important modification took the form of a multiplayer squad-based 1st person shooter called *Counter-Strike*. This mod has become the singlemost popular online game so far.

The release of *Half-Life* was a tough act to follow. The game, *Sin* (developer: Ritual – publisher: Activision – release date: 10/31/1998) was published at the same time as *Half-Life*, and it was largely dismissed. It eventually came to be held in high regard by a small but devoted multiplayer community and yet its single-player elements were genuinely innovative and fun. *Sin* made excellent use of *id*'s technology; it had non-linear segments in the game-play, introduced headshots, had many interactive environmental elements, and it had an underlying black humour that parodied the very same medium (James Bond meets Duke Nukem with dreadlocks) that it exploited.

Aliens versus Predator (developer: Rebellion – publisher: Fox Interactive – release date: 04/30/1999), which brought together two of 20th Century Fox's most interesting alien icons (for their sheer savagery), was released a few months later, but it was also not particularly well received. Both *Sin* and *Aliens versus Predator* are excellent games and they were the first to introduce many original features that are now accepted as standard in the genre, but the game consumers at the time were apparently consumed totally by the unique style of story-driven format that *Half-Life* had made its own.

One of the most revolutionary aspects of the game *Aliens versus Predator* has to do with its three different character perspectives, which really explore and push out the possibilities of the 1st person perspective for computer gaming. In a sense, it provides three different games in one. The terror-mode of game-play is when one takes on the role of a human colonial Marine. With each step through the dark passageways of faithfully rendered scenes from the films, one is feverishly anticipating when something incredibly nasty (with pointy teeth) is going to jump out – taking care not to allow the aliens to get too close when firing at them so as to avoid being splattered by their acid for blood. As well as flares, the marine has a special night-vision mode that is required in some scenes that are completely pitch-black. The low illumination throughout the game is fundamental to its mood (a strategy that *id* seems to be emulating to some extent in their latest version of *Doom*) and it is a great way of showing off its sophisticated (for the time) lighting effects. The Predator-style of play includes unique abilities to jump, to scan through different vision modes, to camouflage one's character, and it includes the awesome array of weapons technology that was introduced in the films. One can take the heads of one's victims as trophies and one is obliged to refrain from killing non-threatening bystanders, according to the strict honour codes of this predatorial, but technologically and culturally advanced species. The Alien-mode involves no such ethic. Killing any humans or predators is the only way to boost one's health in the case of injury. There are two vision-modes. Both have a fishbowl-like quality, giving greater peripheral

vision. The second enables one to see in the dark. Human prey and predators have distinct visual signatures that make them easy targets, but not necessarily easy prey. The alien can only attack at close quarters with its claws, tail, or head-crunching inner jaws. It has the capacity to leap extraordinary heights or distances, to crawl on walls and ceilings, but it is ultimately vulnerable to the effects of both the weaponry of human marines and that of the predator. So, this mode requires far more stealth. As the alien, one also has to think far more laterally, or more precisely, three-dimensionally; hidden, but crucial passageways are not always on the ground. The developers must have had mind-twisting fun designing some of the levels.

There are ingeniously contrived sections in Rebellion's *Aliens versus Predator* where the different characters that one plays cross one another's paths – thus evoking a weird kind of quantum simultaneity. And, one of the most entertaining and engaging elements in the A.I. is that when the humans in the game are aware of your presence as an alien or a predator, they scream, try to run away, cower, or attack you.

This game introduced so many elements that are only now becoming standard, e.g., the engine produces deformable explosions that are affected by the shape and size of the environment, hackable body-parts, a diverse range of vision modes and perspectives to simulate the experience of each of the different races, shimmering wave effects that occur when moving through water (actual 3D waves and not merely 2D representations), and it has a wealth of integrated environmental sounds and music from the films to enhance the feeling of being immersed in the worlds of the aliens and predators. This is the only game that has genuinely made me jump out of my seat.

Aliens versus Predator also has an excellent multiplayer mode (with bots), but at this time the automatic addition of this facility to ostensibly single-player games was about to undergo a revolution with the release of multiplayer-specific games, which could also be played offline with bots that were programmed with powerful A.I.

Two such games were released at the same time with competing engines. They are really the same type of game utilizing different technologies: *Unreal Tournament* (developer: Epic Games – publisher: GT Interactive – release date: 11/30/1999) and *Quake III: Arena* (developer: *id* Software – publisher: Activision – release date: 11/30/1999). At first, *Unreal Tournament* had the edge because it comprised many different game-play modes (e.g., Capture the Flag, Domination, Assault), whereas, *Quake III: Arena* only employed Deathmatch mode. This gap was bridged by the release of the Add-On to *id*'s game, *Quake III: Team Arena* (12/18/2000).

However, by this time, after the runaway success of *Half-Life*'s story-driven single-player phenomenon, the popularity of multiplayer-only games employing the standard format of Deathmatch and its derivatives had begun to wane. The *Half-Life* multiplayer mod *Counter-Strike*, which requires a more subtle style of internet play and group cooperation (which *Unreal Tournament* anticipated with one of its mission-based modes, entitled “Assault”), took the lead in creating a more immersive internet-based game-play. This type of interaction introduced new dimensions in that success or failure had more to do with strategy and planning than the mere speed of one's reflexes with the keyboard and mouse.

Id's *Quake* engine has monopolized the games software development industry for some time now, with *Unreal* technology being its closest competitor. The award-winning

Medal of Honor Allied Assault (developer: 2015 – publisher: EA Games – release date: 01/20/2002) utilizes the *Quake III* engine, as does *Jedi Knight II: Jedi Outcast* (developer: Raven Software – publisher: LucasArts – release date: 03/26/2002). Raven's new offering [Jedi Academy](#) (forthcoming – 2003) also uses a heavily modified version of the same engine to great effect. A sequel to Raven's *Star Trek Voyager: Elite Force* is about to be released, which also utilizes the *Quake III* engine. The games developer, Ritual Entertainment was the natural choice to take on the project of producing [Star Trek: Elite Force II](#) (publisher: Activision – forthcoming 2003) and it looks as though it will make a significant contribution of its own to the *Star Trek* universe – the present installment takes place aboard Captain Jean-Luc Picard's *Enterprise NCC 1701E* of *Star Trek: The Next Generation*. Before the game *Sin* (which used *id*'s 3D engine technology), Ritual distinguished itself by making the excellent add-on mission pack to *Quake: Scourge of Armagon* (developer Hipnotic / Ritual – published by Activision – 02/28/1997) and, after *Sin*, the team produced an excellent 3rd person perspective interpretation of the “*Heavy Metal*” comic series: *Heavy Metal F.A.K.K. 2* (published by Gathering – 08/06/2000), which also utilizes the *Quake III* engine.

The second *Quake* add-on mission pack *Dissolution of Eternity* (published by Activision – 03/31/1997) was developed by Rogue Entertainment, the team that went on to use the *Quake III* engine to produce what is arguably the most outstanding game of all time: [American McGee's Alice](#) (publisher: Electronic Arts – release date: 12/05/2000). American McGee, a former member of the early *id* development team, dared to dream of creating a production of *Alice* that would do more than just pay homage to the books, *Alice in Wonderland* and *Alice through the Looking Glass*, but would further develop the characters and scenarios of Lewis Carroll's stories by endowing them with a contemporary relevance in a postmodern world that has lost its innocence (the initial letters of Load, Save, and Delete [LSD] on the loading user interface page of the game is one of the first indications). The attention to detail is magnificent, while the narrative and visuals give the nightmarish adaptation of *Alice*'s virtual world behind the looking glass a life that truly complements the original tales, but 'through a glass darkly.' In its particular form of madness, it is simultaneously charming and uncanny. American McGee's creation marks the point at which the computer games industry finally attained the level of true art ([Alice: in-game footage](#)).

And, from the sublime to the ridiculous, a game by the name of *Serious Sam: The First Encounter* (developed by Croteam and published by Gathering – 03/22/2001) made it to the games shelves, followed very quickly by its sequel – [Serious Sam: The Second Encounter](#) (02/04/2002). *Serious Sam* has often been referred to as a game-engine without a game. Actually, more than anything else, it is a homage to the early brainless format of the FPS, where the player is bombarded by hordes of enemies simultaneously and all that one has to do is run about like a lunatic and shoot anything that moves (and there is much that is moving), but Croteam handles this far-from-brainlessly. With the advances in A.I. over the years since *Doom*, the number of opponents at any one moment in almost every game has decreased drastically because of 3D engine and hardware constraints in relation to the improved A.I.'s high performance demands. Croteam tapped into a nostalgic desire for a return to the wholesale carnage of the earlier FPS spirit and succeeded in developing an extraordinary engine that reintroduces ridiculous numbers of enemies without the usual accompanying slowdown in performance and framerate. Some of the frenetic and epic encounters are enormously amusing and innovative in the old-style format. These games are for players who enjoy a high adrenaline rush and they fulfill their nostalgic aim to the max.

Film themes – such as *The Thing*, *Aliens versus Predator*, *The Terminator*, *Robocop*, *Star Wars*, and *Star Trek* have made successful transitions to computer gaming – which further demonstrates a motivation borne of nostalgia. And, in turn, as well as feeding back these themes to cinema by way of their transformation through the medium of computer games, the gaming industry is pushing out the envelope of film technology. The crossover from films to games is not just a one-way process, the inverse has also proved to be a lucrative move, e.g., *The Mario Brothers*, *Streetfighter*, *Tomb Raider*, *Resident Evil*, etc. But, it is not just the titles that are switching back and forth from one medium to another, the industries themselves are pooling resources such as technology and individual talents to create a new blend of entertainment with original themes.

[Clive Barker's Undying](#) (developer: EA LA – publisher: EA Games – release date: 02/19/2001) is a film director's trip into cyber-space with the help of *Unreal* technology. Clive Barker, writer and director of the film, *Hellraiser* (1987) maintained creative control and it shows in the storyline and production values (he also contributed to the voice talents in the game). The style of *Undying* and its characters (particularly the ghoulish Covenant family) are definitely his own. And, rather than the usual testosterone saturated beefcake mindlessly running around killing hordes of equally mindless zombies, the principal protagonist and hero (i.e., the avatar representing one's own perspective) looks and speaks like a refugee from a novel by D. H. Lawrence. Played in 1st person and dying in the 3rd, he is a softly spoken gentleman with an Irish accent – a shaman – who is a weaver of spells as well being handy with traditional weaponry. The dialogues and cut-scenes are extremely well-written and absorbing and the complex interwoven narratives of the different characters unfold a history of a very bizarre family indeed. The graphics and sounds are amazing and the game as a whole is imbued with a sense of unease that really draws one into its eerie virtual spaces (the most memorable and most malevolent beasts in the game are, without any doubt, *the howlers*). It is a little like stepping into a stylish British Hammer-Horror period-piece (set a little after the Great War), unravelling the mysterious and, at first, subtle signs of devilish goings-on in an old country manor in Ireland and discovering family skeletons in closets that open up to other demonic spaces and span the ages.

[Max Payne](#) (developer: Remedy – presented by 3D Realms in association with Take 2, Rockstar, and Gathering of Developers – release date: 07/23/2001) throws the player into a film noir adult thriller in a 3rd person perspective, New York minute adrenaline pumper. Finally, a game that has grown up with its players! The storyline is fast-paced and written in a kind of contemporized Raymond Chandler style, while the cut-scenes are a mixture of motion sequences (using the game-engine) and stills that are structured like frames in a comic book. One of the most outstanding effects produced in this game is called 'bullet-time' – a time-dilation that emulates the slow-motion action sequences that made the film *The Matrix* so visually stunning. Playing this game really is like stepping into an adult thriller action movie and it pulls out all the stops as far as pure innovation and gritty visual realism are concerned. *Max Payne II [the Fall of Max Payne]* is to be released in the fall / autumn 2003.

The story-driven mode of 1st and 3rd person perspective games has proved to be a compelling framework for the medium, with its emphasis on strong narrative structure, because it draws the player into a plot – experiencing a movie from the inside-out as an 'interested participant' (inevitably the 'hero') with some degree of risk, although the 'save' facility permits one to re-run sequences that, sadly, 'real' life does not permit. A unique aspect of living in virtual domains is that one can die and be reborn again and again, rising like a phoenix from the ashes to avoid past mistakes and to go on to ultimate triumph.

The impulse to play these games, especially the thriller and horror forms, is closely related to the same drive that allows us to enjoy rollercoaster rides (real or virtual).

[*Aliens versus Predator II*](#) (developer: Monolith Productions – publisher: Fox Interactive – release date: 10/31/2001) opted for a more story-driven *Half-Life* like experience than the first version of the game. It utilizes Monolith's *Lith-Tech* engine. The next installment of the Alien versus Predator combination will be a cinematic event – which is one of many instances where the medium of games conversion has breathed new life into a theme that can explode back on to the big screen with renewed resonance. With the success of the comics and the games, 20th Century Fox is bringing together two of its hottest properties in one movie package. Paul Anderson, who made the successful big-screen adaptation of the computer game *Resident Evil*, is directing the film.

Aliens versus Predator II is an excellent game, but it does not quite match the sheer adrenaline rush of the original installment by the British-based software development team Rebellion. Perhaps some of this has to do with the lack of a save facility in the first version of *Aliens versus Predator* (which was heavily criticized at the time, but which actually added an extra dimension of anxiety to the game as a whole – of course, a save-patch was eventually produced). The integration of fairly long cut-scenes in *Aliens versus Predator II* (which has become a standard feature in story-driven games), though well staged (by the engine) tends to interrupt the unremitting spine-tingling tension and feeling of aloneness that were the hallmarks of the first incarnation and which kept one on the edge of one's seat. It was a wise move to incorporate a skill level called 'realistic' which, like the first game does not allow the player to save during a mission. The sequel contributes the element of storytelling and it is faithful to most of the technical, audio-visual, and game-play innovations that were introduced in the original, but the first game made the giant strides.

In the horror stakes, in my opinion, the only other games that have come close to this nerve-jangling experience so far, are *Clive Barker's Undying* (02/19/2001), *Silent Hill 2: The Director's Cut* (published and developed by Konami: 12/02/2002) and *The Thing* (developer: Computer Artworks – publisher: VU Games – release date: 08/20/2002).

[*Silent Hill 2*](#) is the tale of a young man – in 3rd person mode – who finds himself in a strange town after having received a letter from his deceased wife. It is a genuinely creepy psychological thriller. The real-time dynamic lighting effects are extremely atmospheric and the overall ambience of the game oozes with menace. As well as the 3D elements, disturbing environmental sounds, battles with surreal, indescribably disgusting entities, and puzzles, *Silent Hill 2* has an absorbing narrative plot and can be cast into the category of a 'quest' mode of game-play. Like the superb game *Max Payne*, it handles some extremely adult themes with sensitivity and sophistication, and it is an exemplary demonstration of the benefits that come with production teams that have grown up with their audience.

[*The Thing*](#) takes up the story just a few hours after the end of the movie. It is a worthy homage to John Carpenter's adaptation (1982) of the John W. Campbell's story ("Who Goes There?") since its attention to visual detail, location, mood, and the development of the primary theme of "who can one trust?" are spot on. The squad-based element plays a significant role in the game-play, since one has to maintain the trust of one's computer generated team-mates, while never being quite sure who is a mere simulacrum of a human being that is suddenly going to transform into an amorphous alien aggressor. Amongst the various power-ups in the game, there are means by which one can test the authenticity of one's

human partners. One must constantly check the panic scale for each member of one's team and employ various strategies for boosting their morale, e.g., giving them a more powerful weapon and ammo, or administering an adrenaline shot, etc. The graphics are superb and the atmospheric effects (winds and snow flurries) give an extra edge of realism to the Antarctic location which, just like the film, already promotes an extreme feeling of isolation and a general sense of vulnerability. This is partly augmented by the ever-present danger of one's game-character dying of hypothermia from overlong exposure to the bitter-cold conditions outside.

And, there has been further feedback from film to games and vice-versa.

[Spider-Man](#) (developed by Gray Matter and published by Activision – 04/14/2002), which is a collaboration with Sam Raimi's film production. Peter Jackson's ongoing cinematic adaptation of J. R. Tolkien's trilogy, *The Lord of the Rings* is naturally spawning a series of games (most probably more than a trilogy). *The Lord of the Rings: The Fellowship of the Ring* was first released for the Xbox (Black Label Games – WXP) in 09/26/2002 and then for the pc (Black Label Games – Surreal Software) in 10/22/2002. The game [Harry Potter and the Sorcerer's Stone](#), based on the character of the books and films by J. K. Rowling, was published by EA Games in 11/15/2001 (developed by KnowWonder). And, naturally, James Bond has made it to the pc (sporting the face of Pierce Brosnan) with the game [James Bond 007: Nightfire](#) (developed by Gearbox Software and published by Electronic Arts – 11/28/2002). It has all the gadgets – including x-ray spectacles that allow you to see sexy lingerie on the ladies, but only skeletal figures in the case of men (a little bit of sexism going on here – just like the movies). As with any of the Bond films, it even has the mandatory Maurice Binder-like opening sequence – a rapidly moving collage of scantily-clad women, guns, and missiles dancing together...

Once it was "So now you've seen the film, you should read the book..." Now, it's "...you should play the game!" or "Now that you've played the game, you should play the mod, see the film, read the book, buy the soundtrack...and get the new mix..."

And, beyond that... "Okay you've played the game on a console, but have you tried the pc version?"

The extremely popular FPS game – [Halo: Combat Evolved](#) (developed by Bungie Software and published by Microsoft), which was originally produced as the flagship for Microsoft's console Xbox (11/14/2001) is finally being adapted for the pc by Gearbox Software and will be released later this year (2003). The enormously lucrative business of media adaptation for what is essentially a single product is also a war. It is hard to imagine how well this two-year old game will stand up on the pc platform given the cutting-edge technology of its more recent competition. PC technology is now far in advance of the console and so it would appear to be a more workable solution to port games from the pc to the console rather than vice-versa. However, Gearbox is an excellent software developer, so further speculation on this point should be suspended until the game is actually released.

5. The Shape of the Present and Things to Come

In anticipation of next week's seminar, based around films that explore the possibilities of virtual worlds and the ways in which the distinctions between fantasy and reality are far from being clear cut, let us take a brief look at two of them which have actually spawned games.

[*Tron 2.0*](#) (developer: Legend – publisher: Atari) is to be released later this year and it follows on – one generation later – from the Disney movie *Tron* (1982), which originally starred Jeff Bridges as a programmer digitally broken down and transported into the virtual world of a vast computer system. Twenty one years on, contemporary computer hardware and software can effortlessly produce the CGI visuals that actually had to be simulated in the 80's film by using traditional animation techniques. The production of the game as its natural sequel has been developed with the very technology that the movie predicted.

Also, later this year, to coincide with the release of the film sequel to *The Matrix*, the game [*Enter the Matrix*](#) (forthcoming: 2003, developer: Shiny Entertainment – publisher: Atari) will become available in a unique collaboration that makes perfect sense given the fundamental theme of the story. It will be interesting to see if both the movie and the game live up to their promising potential. Even though there is a third (and final) film in production, does this mean that, with the addition of the game, we cannot call the series a 'trilogy'?

And, beyond game adaptation of cinema or the cinematic adaptation of games, what about the endlessly delayed next installment of one of the true classics in the history of pc games: "Duke Nukem"?

[*Duke Nukem Forever*](#) – “When it's done!” The producers of this game have not given in to the increasing pressure of the distributors to release games within a specified time-period. Many people in the industry feel that the quality of games development has dropped because of the increasing standardization (like the film industry) that has taken over, thus limiting creativity and originality. If *Duke Nukem Forever* does not take forever to materialize, it may well slip through the net (no pun on the *internet* intended). Notice the clever way in which the video augments the feeling of technological progress by representing the – very short – passage of time from the earliest incarnations of *Duke Nukem* to the latest by starting with sepia tinted images, moving to black and white, and then to full-blown colour. This strategy is also used in the video of the history of *Doom*, above. The cinematic art of movie trailers – with its inherent grammar (especially in representing the passage of time) – has become integral to games marketing.

Since the producers and publishers are in control once again, stifling the wild entrepreneurial creativity and often politically-incorrect ideas of designers (which was the true strength of the fledgling software company, *id*), are computer games being reduced to a homogenized format under the watchful gaze of the censors and money movers of the industry?

Not necessarily!

The infamous and eminently playable *Grand Theft Auto* series of games (the direct descendant of the ultra-violent game *Carmageddon*) – goes very much against such a trend. It has been said, particularly of [*Grand Theft Auto III*](#) (publisher: Rockstar Games – developer:

Rockstar North – release date: 05/20/2002), that it exploits violence to an unprecedented degree. Perhaps this is so, but it does it with superb wit and ingenuity – parodying the real excesses of contemporary culture and drawing on all the familiar Mafioso-type themes with which we have already been bombarded by cinema and the media in general. The game is mission-based and yet open-ended in structure. The environments are enormous and one literally has the scope to play out one's wildest fantasies in terms of inaugurating street violence and thrusting oneself into fast car chases, according to an agenda or just for the sheer anarchic thrill. This game has encountered a great deal of criticism from the Press. This is not the time to go into the ethics of games design, but it should be said that if there is a major cathartic element at work in the motivation to play such games in the first place, then surely it is better to allow it free reign in a virtual world rather than the real one!

The virtual realm of cyber-gladiatorial combat is a perfect case in point. After killing one's enemies – and being killed in return – countless times over, it is good to join them in the pub afterwards for a pint.

The present state of the art of cyber-gladiatorial athletics includes a diverse range of different modes – Deathmatch, Capture the Flag, Assault, and other variants – moving on to more sophisticated team-based, 1st person perspective, war games like the *Half-Life* mod *Counter-Strike*. Other popular incarnations of this genre are *Team Fortress* (Sierra), [Medal of Honor: Allied Assault](#) (01/20/2002 – developed by 2015 and published by EA Games), *Return to Castle Wolfenstein* (developer: Gray Matter – publisher: Activision – release date: 11/20/2001), and *Battlefield 1942* (developed by Digital Illusions – publisher: EA Games – release date: 09/10/2002). The latter game recreates a number of famous WWII battles that can be played in single-player mode, but it really comes into its own online. *Battlefield 1942* is one of the most impressive games in terms of the sheer openness of its scope. There is so much freedom for the player to simply explore and play with the virtual weapons and vehicles that one need never enter into the organized conflict. For instance, one can pilot an allied aircraft to another part of the map, land it on an enemy carrier, steal one of its planes and then sink the carrier just for the sheer fun of it.

Incidentally, [Battlefield 1942](#) is the only game that has so far produced a realistic looking horizon – a sense of infinite distance. Its environments are absolutely massive!

Medal of Honor and *Return to Castle Wolfenstein* have strong single-player mission-based plots as well as multiplayer facilities. [Return to Castle Wolfenstein](#) is a lavish rehash of *id's* early *Wolfenstein 3D* game for the pc (using a heavily modified version of the *Quake III* engine) and it spans a technological gulf that is as wide as that which appears evident in *id's* development of *Doom III* as compared to its original incarnation in 1993. Unlike *Medal of Honor*, which confines itself to the realistic enactment of various campaigns leading up to and including the Allied invasion (the chaos of storming the beaches, amidst explosions and ricocheting bullets, is gripping as well as unnerving), *Return to Castle Wolfenstein* also includes fantastic Gothic horror elements – the hallmark of *id's* creations – which the developer, Gray Matter has carefully crafted into the fabric of the game as a whole. The combination of nazism and the occult evokes images from the films, *Raiders of the Lost Ark* and *The Keep*. The tension throughout the game is finely balanced between realistic WWII warfare scenarios and battles with hellish demonic forces, making the game an epic tour de force that is compelling and thrilling fun. Interestingly enough, the combination of WWII and Gothic Horror was the principal criticism of the game as a whole – shared by players who were yearning for more and more realism. This is the irony of the virtual and the chief

determinator of the direction of virtual-world technology. The aim is to produce technological transparency to the extent that the virtual can no longer be distinguished from the real. Continuous and rapid improvement of the science leading to technological transparency is certainly exciting in its own right, but there will always be room for fantastic narratives and not just the mundane, in the sense of natural or familiar stories or events. Of course, in multiplayer mode, the game engine and environments can perform as the background to more realistic historical scenarios, which seems to have kept the obsessive-realist portion of the online gaming community happy.

Incidentally, this is the only 1st person perspective game, to my knowledge, that allows the player to 'boot' doors in – as well as exact revenge on nazi torturers in gothic castles while being attacked by the Teutonic Undead.... Great stuff!

The internet-specific – multiplayer – mod of *Half-Life: Counter-Strike* is still going strong. It has breathed new life into the online gaming network because it relies on more sophisticated forms of interaction – strategy and cooperation – rather than the mere quick-fingered reflexes of Deathmatching, which is frustrating for most adults when pitched against the faster reflexes of children.

The release of [*Unreal Tournament 2003*](#) (developer: Digital Extremes – publisher: Atari – release date: 09/30/2002) has introduced a new level of graphical splendour to the genre and it has continued to push out the boundaries of multiplayer gaming on the internet (like its predecessor, it can also be played in single-player mode). The most stunning level in the game is called “Tokara Forest.” It was designed as a low-gravity arena, an environmental condition that its artists took into account by making the trees huge and impossibly tall (impossible only for our *real* single-g-force habitat). The trees are connected by walkways, and one can bounce about on pools of shimmering light. The canopy above is a delicate latticework of branches and leaves through which soft light beams of different intensities shine down upon the magical, *Midsummer Night's Dream*-like scene of the forest below. Imagine stepping into a scene from *Return of the Jedi* and taking an idyllic stroll inside an Ewok village – which soon transforms into a frenetic race of bounding-leaps over great distances and vertiginous heights as the multiplayer Deathmatch tournament begins. The game, as a whole, improves on the original *Unreal Tournament* (which is still brilliant) through its new physics, ragdoll technology, larger spaces, more lavish textures, etc. The 3D engine and the A.I. are formidable.

The imminent release of the story-driven single-player game [*Unreal II: The Awakening*](#) in 2003 (developer: Legend – publisher: Atari) is eagerly anticipated and, judging by the game's video trailer, it undoubtedly pushes the technology even further in the sublime style of the *Unreal* aesthetic. It is one of the first major games of this type that has been made exclusively for single-players only – without a multiplayer mode. No doubt, the mod community will change this state of affairs.

The new *Unreal* technology has also been used recently to produce an online-only multiplayer ‘game’ called [*America's Army*](#). The game, which takes one through certain virtual training exercises before letting one loose in battle, was produced by...surprise, surprise... America's Army! It can be downloaded for free and all one has to do is enlist (in a virtual sense) in order to gain access to the servers. Records of individual player's statistics are recorded...creepy...!

...And, inevitably, [The Sims](#) finally made it online as well.

In addition to the games that have been discussed, there are strategy games online and role-playing games with huge environments where players can even add photorealistic images of themselves to their avatars as a way of augmenting a feeling of true real-time immersion in their chosen virtual dimensions – vast cyber-spatial communities of real people spatially interacting in real-time – in a 'worldly,' but 'non-real' space.

There are many different forms of game-play, but they all seem to be heading toward a combination of 1st person and 3rd person perspective virtual reality. The RPG (Role-Playing Game) and MMORPG [Massively Multiplayer Online Role-Playing Game] is probably the most fertile mode. By far the most absorbing and graphically impressive game of this type at the moment (after *Deus Ex* and *System Shock II*) is [Morrowind](#), (developed and published by Bethesda Softworks – release date: 05/01/2002).

The trailer of in-game footage of the forthcoming [Star Wars: Knights of the Old Republic](#) (developer: BioWare – publisher: LucasArts) is also stunning and it promises to be a new contender for the RPG crown. The scenario is set four thousand years before the era of the movies and so it seems most likely that Bio Ware has had considerable creative scope in making an original contribution to the *Star Wars* universe.

The release date for *id*'s new *Doom III* engine and game is unknown. The industry is holding its breath while it waits and tries to prepare for the next leap in games technology that its imminent release date, along with that of Valve's *Half-Life 2*, represents. These two games are expected to kick-start the medium into a whole new generation of virtual reality – in terms of realistic physics, greater degrees of interactivity, higher resolution visuals, smarter A.I., natural environmental and positional sounds and, ultimately, believability (immersiveness) – a paradigm shift of Kuhnian proportions.

So, where could all of this be taking us?

What other technological trickery is at hand to fool our senses and encourage our ever-ready will to suspend disbelief? Just how far can this movement toward deeper and deeper immersion go? In addition to the technology that has been discussed so far, there are other forms that are presently in use, but which have not been marketed on a significant scale...yet.

One sign of real three-dimensional existence is a feeling of resistance. This can already be simulated by vibrating devices that produce a certain degree of tactile stimulation, pressure, evoking the sense of an encounter with something that is 'really there.' I am not referring merely to force-feedback joysticks for games. In certain types of industry (and not just the audio-visual arts) there are devices for the manipulation of virtual objects in virtual space through the controlled operations of an avatar of one's gloved hand. Inside the glove there are sensors positioned at the joints that respond to the movements of one's fingers, hand, and wrist, which are recreated as the skeletal mesh of an articulate image / object in virtual space. The interactive possibilities go both ways. The inverse of this technology allows contact with virtual objects to initiate impulses in the sensors that create the feeling of real extension, solidity, smoothness and granularity through the illusion of resistance. This presents some fantastic possibilities for even more immersive forms of game-play – and not just games...

The application for cyber-sex is obvious, since contact with virtual objects or cyber-lovers can initiate impulses in the sensors that create the illusion of being touched as well as touching. The sensors and pressure pads stimulate certain parts of the body in synchronization with one's virtual encounters. Imagination does the rest. For instance, consider virtual rollercoaster rides – there is no g-force, but the body still reacts to it on the basis of the mind's expectation according to visual and tactile stimulation / suggestion – which may ultimately hit the G-spot. It seems most likely that further development in this area will ultimately give way to more direct methods of inputting such data to the mind – actually plugging ourselves in, so to speak: pure sense-data creating the illusion of the sensory, thus bypassing the flesh. This will be one of the central subjects in next week's seminar when we discuss the films, *The Matrix* and *eXistenZ*.

Meanwhile, present-day technology already offers a significant number of methods for entering virtual domains through the proxy of the flesh. There are the aforementioned force-feedback joysticks (for flight simulators) and steering wheels (for automobile-based games). A few years ago an interactive jacket was produced that simulated blows to the body by the use of sensitive pressure pads (but it was not a commercial success). A range of 3D headsets have been developed, some of which operate stereoscopically (like 3D movies), thus giving a further sense of depth, while others simulate full 360 degree visual immersion in virtual game environments – where instead of the environment scrolling past one's fixed point of view, one actually has to move one's head as one would in a natural space. Environmental sound technology has reached unprecedented levels of believability (partially thanks to the Mp3 format that has drastically reduced the size of high quality sound files). On the internet front, there are chat forums that one enters by means of one's virtual avatars (utilizing photorealistic images, like some of the current online RPG's), which promote an extraordinary feeling of immersion – and, of course, there is growing development in the area of cyber-sex, utilizing clever devices that aim at technological transparency and which cover a bewildering range of applications, including interactive cyber-underwear...

...As a game-player, surfer, and all-round cyber-enthusiast, I can only say that the present technology and the possibilities that lie ahead 'really,' and not just 'virtually,' f*** with one's mind...

...But, as a phenomenologist, perhaps I ought to just say, rather more soberly, that the horizon of experiential possibilities that lies ahead through the rapid progress of immersive and interactive technology is formidable and startling in terms of its significance for the continuing evolution of humankind.

Addendum (*Summer – 2003*):

[Half-Life 2](#) has been in development for five years and by the look of the demo that has just been presented at the latest E3 exhibition – the premier forum for the demonstration of games technology in progress – it truly pushes out the envelope of what is possible. The video presentation gives us a tantalizing taste – after the extraordinary, lightning-fast advances that have taken place in 3D virtual environment technology and new modes of interactive story-telling over the last ten years (1993-2003) – of the shape of things to come in the next decade...

Additional video trailers:

[American McGee's Alice – game-play 2](#)

[Aliens versus Predator II – teaser](#)

[Aliens versus Predator II a](#)

[Battlefield 1942](#)

[Counter-Strike](#)

[Half-Life](#)

Useful Links:

<http://www.fileplanet.com>

<http://www.gamershell.com>

<http://www.gamespot.com>

<http://www.gamespy.com>

<http://www.gametrailers.com>

<http://www.megagames.com>

<http://www.pczone.co.uk>

<http://www.planethalflife.com>

<http://www.planetquake.com>

<http://www.planetunreal.com>