

The Evolution of Computer Gaming



From Space War! to Spore

2nd Edition

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I. Introduction

Forward by Author

Welcome to the second edition of this eBook. New information and understanding has prompted me to update this with more accurate information. Here are changes from the first book:

- The Puzzle genre is now part of the Strategy genre instead of being included with Adventure games. Puzzle games require the player to use the same cognitive powers used in a strategy game, such as one's capacity to be analytical, perceptive, and use decisive judgement. Puzzles are just abstract strategy games.
- Adventure games is now smaller, yet more pure category. Adventure games are all about imagination and communicating a story. Adventure games require the ability of the user to immerse himself/herself in the game.
- Corrected the year of arrival for the game Trek to 1972 from 1967.
- Simulations are no longer a genre but instead are a descriptive about the level of detail tracked by the game and available to the player. Simulations are called such if their focus is more realism and not just game play.
- Definition of what a Computer Game has been updated.
- The evolution of the genres has been redone and improved.
- The chronology section has been updated.

I hope you enjoy the read.

C.B.

Welcome to the Evolution of Computer Gaming

You will find within this web-book a concise yet descriptive history of computer games in all of their forms.

To begin we should describe what a computer game is...

Katz and Yates describe it as "...a competition involving one or more machine or human opponents under rules using interactive electronic technology. An electronic game must have a goal, one or more obstacles to the attainment of that goal, and a means by which the goal can be achieved."

At first it appears that this description does not apply to simulation games like flight simulators, but Katz and Yates also state that "The player competes against him- or her-self in a test of skill, not against an opponent. In simulation games, winning is not a decisive moment: it is the successful achievement of a high skill level over the course of the computer's scenarios."

Chris Bateman from International Hobo defines games by defining what a toy is. A toy is "A tool for entertainment." So a game is "A toy with some degree of performance." or "A tool for entertainment, with some degree of performance associated". Furthermore, a computer game is simply a "A tool for entertainment, with some degree of performance associated, played on a digital medium".

There are electronic games out there that use computer chips to function, but these are not computer games. To be considered a computer game, it must use digital avatars and symbols to represent the player, objects, opponents, etc. The repeat game Simon is not a computer game even though it uses a very simple computer to generate a series of notes and remembers whether you can repeat it. There is nothing that represents you.

So yes, Monopoly or Chess is a board game but it becomes a Computer Game when it is ported to any computer platform. As I shall explain, all computer games are inspired by non-computer forms of human expression such as board games, sports, science fiction/fantasy ideas, etc.

Recreating The Non-Digital World

All Computer Games are based upon real-life activities. I cannot think of a single computer game that does not borrow from some 'real' world system be it physics & reaction, fiction & imagination, and systems & understanding.

Sports & physical skill games inspired all Action-based games where the primary skill of the player is their physical reaction. For example: Pong is defined by copying the bounce of a ball. Winning the game means possessing better physical reactions.

Board games, card games, and war games are what inspired all Strategy-based games where the primary skill of the player is their cognitive problem solving. Card games provide the element of pattern allocation. Board games are about resource allocation and anticipating an opponent's moves. For example: Solitaire is fundamentally about solving a puzzle while Chess is about pitting your cognitive skills against an opponent. Winning the game means possessing good cognitive functioning.

Books, movies, and music are what inspires all Adventure-based games where the primary skill of the player is self-immersion. The focus on story, characters, setting, and plot is the basic building blocks to these games. For example: Zork is about understanding the setting, the inventory items, and the purpose of the game. Winning the game means concluding the story.

So where does this leave simulations? Simulations are a relative concept that can be applied to all three areas of gaming. Essentially, it is about complexity being captured in the game. Chess is more of a simulation than Checkers because it is more complex. Yet Chess is far more abstract than the board game Axis & Allies. Action games become simulated by its more accurate creation of physics. Adventure game elements become simulated by reflecting more realistically a character/world/etc. The more ambitious the game tries to mimic its real-world counterpart, the closer the game is to a simulation.

So in summary:

Sport/Pinball = Action Games

Board/Card Games = Strategy Games

Books/Movies = Adventure Games

It is the three grand genres of Action, Strategy, and Adventure that are the three pillars of electronic entertainment.

The Three Pillars of Computer Gaming



Action Games

Action is the most common gaming method and require eye-hand-controller coordination. Winning means being more agile than your opponent(s). The Action Genre where game play is meant to "make a sweat" This Genre contains the following Game Elements:

- Interface dependent. The game must have a control system that is real time, responsive, intuitive, and easy to learn and remember for it to be successful.
- Perspective/Arena defined. The game play in this Genre will be fundamentally influenced whether the play takes place on a 1st person/3D perspective or a 3rd person/2D perspective and whether the game play takes place on a single screen or a scrolling screen.
- Competition dependent. The game must have some opponent or challenge to be vanquished or avoided.

If an Action game has poor game play (not responsive to player's controls or complicated control mechanisms) then the game suffers. Commander strategy games shall consist of all army based strategy games, where play consists of using a larger number of relatively non-distinct groupings of warriors, etc. These games may be Table Top, Grand Strategy, Real-Time, and Turn-Based Strategy games.

Strategy Games

Strategy require resource collection and/or organization, and utilizing these resources in an efficient manner. Winning means being a better planner than your opponent(s). The gambling sub-genre is about having better luck than the opponents. Strategy games requires the player to control more than one unit and coordinate their actions. So Double Dragon had some strategy elements when two players would play together. This is why traditional CRPG are in many ways strategy games with adventure overtones. Even single character CRPGs must manage resources (HPs, spell power, etc) like a strategy game. The Strategy/Simulation Genre - where game play is meant to "make sense" (Games of Command)

- Complexity dependent.
- Artificial Intelligence defined
- Logic or System Integrity dependent

If a Strategy game has AI that is not challenging or game play units that are not useful then the game suffers. Leader strategy games shall consist of simulation based games, where play is about managing and influencing an environment, and less about conflict. Direct control of the games pieces is usually substituted for providing direction and influence. These games are further divided upon into Business, Political, Deity, Sovereign, and Sport sub-genres. These games range from Real-Time to Turn-Based and Scripted-Zero Sum.

Adventure Games

Adventure require deductive reasoning, abstract thought, and simple persistence. Winning means solving the problem or puzzle as quickly as possible. The Adventure/Puzzle Genre - where game play is meant to "make believe" This Genre contains the following Game Elements: (Games of Wonder) (setting and plot)

- Solution dependent.
- Plot/Pacing defined.
- Character/Setting dependent.
- If an Adventure game has poor story structure that makes no sense then the game suffers. If its pacing is too slow then the player becomes bored. If the setting and character are not interesting and don't progress in an expected way, the player will lose interest.

Game Elements

All three genres of games are made up of Game Elements. Some games genres place higher emphasis on certain elements than other genres. There are three main categories of each meta-element. Here is a Periodic Table of the Game Elements.

The Periodic Table of Game Elements

AESTHETIC DESIGN

PLAYER DESIGN

CHALLENGE DESIGN

Se Setting	So Sound	I Interface	Ch Challenge	Cm Complexity
Cr Character(s)	Mu Music	Co Continuance	Re Reward	Ai Artificial Int.
P Plot	An Animation	Me Mechanics	Pa Pacing	Ba Balance
Ge Graphic Effects	Wr Writing	Pe Perspective		
Ma Marketing		Cr Creativity		

The Periodic Table of Game Elements

AESTHETIC DESIGN

1. Setting (Se) - the time and place the game is based in (if applicable).
2. Character(s) (Cr) - the characters or avatars that the player controls.
3. Plot (P) - the purpose or goal of the game which could be self-defined.
4. Graphic Effects (Ge) - the visual representation of the setting and characters.
5. Sound (So) - the audio representation of the setting and characters.
6. Music (Mu) - the setting of the game reinforced in the audio realm.
7. Animation Choreography (An) - the visual reaction of the game.
8. Writing (Wr) - the story and how it is played out.
9. Marketing & Accessories (Mi) – the maps, ankhs, and whatever else that helps promote the game.

PLAYER DESIGN

10. Interface (mouse, keyboard, etc - how intuitive is it to control the avatar) (I)
11. Pacing (real time, turn based) (Pa)
12. Mechanics (the actions available to the player to accomplish the task) (Me)
13. Physical Perspective (2D, 3D, screen scrolling, etc) (Pe)
14. Continuance (ability to save progress, # of save slots, insert coins, etc) (Co)

CHALLENGE DESIGN

15. Challenge (the range of challenge i.e. # of opponents, obstacles, puzzles, combo, open-ended) (Cl)
16. Command Complexity (levels of responsibility, sub-games, etc) (Cm)
17. Reward (encouraging players to continue through treasure, levels, score, etc) (Re)
18. Artificial Intelligence (how the computer plans or scripting of challenge) (Ai)
19. Balance (difficult of solution, balance of units/weapons) (Ba)
20. Creativity (ability to create thriving character & places, mods, etc) (Ce)

II. The Chronology of Computer Games

The Chronology of Computer Games

Computer games can be summarized into four “generations” that outline their evolution from the most rudimentary games to the most complex form of entertainment that civilization has developed. You will notice that these generations closely correspond to advances in hardware.

- ☞ First Generation (1962 - 1984) - The appearance of mainframe games, the rise of the arcade, the establishment of home game consoles and early 8-bit computers. The establishment of the Phylums.
- ☞ Second Generation (1985 - 1992) - The great game console shakeout with the establishment of a Nintendo world, the new 16-bit computers and home game consoles including the Amiga, Atari ST, 486 PCs, and Turbo-Grafix.
- ☞ Third Generation (1993 - 1998) - The domination of Wintel PCs and their use of multimedia, the new 32/64-bit consoles including the Playstation, N64, and Sega Saturn.
- ☞ Fourth Generation (1999 - 2005) - The rise of Massive Multi-player games, etc, the introduction of 64/128-bit consoles including the PS2, X-Box, and Gamecube, Ninendo DS, and PSP.
- ☞ Firth Generation (2006 – present) – Mixing of PC & Console; introduction of new consoles including the X-Box 2; PS3; and the Wii.

What follows is a detailed chronology of computer game development. It is focussed on the various milestones of the industry, it is not intended to track every game that has been developed.

The First Generation 1962 - 1984

The appearance of mainframe games, the rise of the arcade, the establishment of home game consoles and early 8-bit computers.

Chronology of Computer Games 1962 - 1970

1962

Space War developed by Steve Russell on a mainframe computer, was the first ever computer game!

1966

Ralph Baer develops video badminton game. Magnavox would later purchase his game and use it in its Odyssey home game console.

1970

Kingdom/Hammurabi developed on a mainframe computer, was the first city management game.

Life developed by John Conway on a mainframe computer, was the first artificial intelligence sim game.

Chronology of Computer Games 1970 - 1972

1970

Lunar Lander developed on a mainframe computer, was the first flight sim game.

1971

Computer Space (based on Space War) is developed by Nolan Bushnell for the arcade. It was the first video arcade game and was a commercial flop.

1972

Adventure/Colossal Cave developed by Will Crowther on a mainframe computer, was the first adventure game.

Hunt the Wumpus developed by Gregory Yob on a mainframe, was the first tactical strategy game.

Trek developed on a mainframe computer, was the first strategy game.

1972

Magnavox releases the Odyssey, the first home game console.

Chronology of Computer Games 1973 - 1976

1973

Pong released by Atari for the arcade, was a huge success and instantly created the video arcade.

1974

Tank released by Atari for the arcade, which was another great success.

1974

Atari and dozens of other competitors develop hundreds of home Pong consoles which seriously hurts the Odyssey.

1975

IMSA releases the Altair 8800 which is the first ever personal computer. It depended on toggle switches and blinking lights for input/output but it was a start.

1976

Breakout released by Atari for the arcade.

1976

Fairchild releases the Channel F console, the first to use a microchip for cartridges.

Atari pays Magnavox a licensing fee for use of the Pong patent.

Chronology of Computer Games 1977 - 1979

1977

DND developed by Dan Lawrence for Mainframe, was the first RPG.

Empire developed by Walter Bright for Mainframe, was the first wargame.

1978

Adventureland released by Scott Adams for the TRS-80, was the first commercial computer game.

Space Invaders released by Taito for the arcade. It created the first video game craze.

Starfleet Orion released by Automated Simulations (Epyx) for the PET, was the first tactical combat strategy game.

1979

Adventure released by Atari for the Atari 2600, was the first console adventure game.

1977

Atari releases the Atari 2600, which revolutionizes the home video console market.

Magnavox releases the Odyssey² console.

Apple releases the Apple II, which is the first personal computer with color graphics.

Tandy releases the TRS-80 personal computer.

Commodore releases the PET personal computer.

1979

Mattel releases the Intellivision console.

Atari releases the Atari 400/800 personal computers.

Chronology of Computer Games 1979 - 1980

1979

Asteroids released by Atari for the arcade.

Temple of Apshai released by Automated Simulations for PET, was the first ever graphic role-playing game.

Zork released by Infocom for the TRS-80, revolutionized adventure games.

1980

Battlezone released by Atari for the arcade, was the first ever 3D game.

Pac-Man released by Namco for the arcade, created the first video game celebrity.

Classic arcade games released include **Defender, Missile Command,** and **Tempest.**

Mystery House released by Sierra for the Apple II, was the first ever graphic adventure game.

1979

Dozens of computer game software companies are formed including Activision, Sierra, and others.

1980

Commodore releases the VIC-20 which becomes the first massively popular personal computer.

Sinclair releases the ZX80 personal computer.

Chronology of Computer Games 1981 - 1982

1981

Classic arcade games released include **Frogger** and **Centipede**.

Kaboom! released by Activision for the Atari 2600, was the first catch-em type game.

War of Nerves released for the Odyssey², was the first action strategy game.

1982

Classic arcade games released include **Donkey Kong**, **Q*Bert**, **Joust**, **Tron**, and **Zaxxon**. Mario, the hero of **Donkey Kong** becomes the new ambassador for computer games.

Pitfall! released by Activision for the Atari 2600, was the first action adventure game.

1981

IBM releases the IBM PC personal computer, which creates a new standard for personal computing as within a year it would be cloned and dominate the market.

1982

Bally releases the Astrocade console.

Coleco releases the Colecovision console.

Milton Bradley releases the Vectrex console.

Commodore releases the Commodore 64 personal computer.

Chronology of Computer Games 1983 - 1984

1983

Classic arcade games released **Dragon's Lair**, **Pole Position**, and **Punch-out**. The use of the laser disc revolutionized graphics and animation but **Dragon's Lair** remained the only laser disc success.

M.U.L.E. released by Ozark Software for various personal computers.

1984

King's Quest released by Sierra On-Line for various personal computers, was the first adventure game with an onscreen character.

1983

Apple releases the Lisa, the first PC with a graphical user interface. It would fare poorly.

TCP/IP is developed by ARPANET which becomes the first true internet of computers.

1984

The "Console Crash" is created due to a combination of consumer indifference and a flood of sub-par games. None of the first generation consoles would survive.

Apple releases the Macintosh personal computer which succeeded where the Lisa failed.

IBM releases the IBM-AT, the first PC based on Intel's 80286 CPU.

The Second Generation 1985 - 1992

The great game console shakeout with the establishment of a Nintendo world, the new 16-bit computers and home game consoles.

Chronology of Computer Games 1985 - 1987

1985

Gauntlet released by Atari for the arcade, was the first four player cooperative game.

Defender of the Crown released by Cinemaware for various computers, was the first to use cut scenes.

Ultima IV released by Origin Systems for various computers, was the first RPG to employ ethical roleplaying.

1986

Street Fighter released by Capcom for the arcade, was the first megahit martial arts combat game.

1987

Sim City released by Maxis for various platforms, was the first graphical city building game and software toy.

1985

Sega releases the Sega Master System console.

Nintendo releases the Nintendo Entertainment System console.

Atari releases the Atari ST personal computer.

Commodore releases the Amiga personal computer.

1986

Compaq releases the Deskpro 386, the first PC based upon Intel's 80386 CPU.

Microsoft releases Windows for Intel compatible personal computers.

1987

IBM releases the VGA standard for graphic display use.

Chronology of Computer Games 1988 - 1989

1988

Tetris is released by Spectrum Holobyte for arcade, consoles, and personal computers. It redefined the action puzzle genre.

1989

Manhole is released by Activision for the personal computer, was the first CD-ROM game.

Populous is released by Bullfrog for various platforms, was the first true god game.

1989

Sega releases the Genesis, the first 16-bit console.

NEC releases the Turbo-Grafx 16 console.

The portable console market is created with the arrival of Atari's Lynx, Nintendo's Gameboy, and Sega's Game Gear.

Intel releases the 80486 CPU for personal computers.

Sound cards by Ad Lib, Roland, and Creative Labs are released for Intel personal computers.

Chronology of Computer Games 1990 - 1992

1990

Super Mario Bros. 3 for the NES is the best selling console game of all time.

1990

Console cartridge rental is allowed and becomes common practice.

1991

Civilization is released by Microprose for various platforms, revolutionized strategy games.

1991

Nintendo releases the Super Nintendo Entertainment System console.

Wing Commander is released by Origin for Intel PCs, revolutionized space opera games.

1992

Mortal Kombat is released by Acclaim for the arcade, creates brand new controversy about violence and video games.

Wolfenstein 3D is released by id Software for Intel PCs, revolutionized first-person shooters.

Dune II is released by Westwood for Intel PCs, the first Real-Time Strategy game.

The Third Generation 1993 - 1998

The domination of Wintel PCs and their use of multimedia, the new 32-bit consoles including the Playstation, N64, and Sega Saturn.

Chronology of Computer Games 1993 - 1995

1993

Doom is released by id for the Intel PCs, it revolutionizes gaming forever in terms of atmosphere and intense multiplayer action.

1994

Virtua Fighter is released by Sega for the arcade and other platforms, and is the first fighting game to use polygons for its characters.

Myst is released by Broderbund for Intel PCs, combines great graphics and challenging puzzles.

1995

Command & Conquer is released by Westwood Studios, revolutionizes Real-Time strategy.

1993

Panasonic releases the 3DO console.

Atari releases the Jaguar, the first 64-bit console.

Intel releases the Pentium CPU for personal computers.

1994

Sega releases the Saturn console.

Sony releases the Playstation console.

CD-ROM drives are made a standard peripheral in personal computers.

1995

Microsoft releases Windows 95 for Intel PCs, and changes the face of computer gaming by killing off DOS games.

Chronology of Computer Games 1996 - 1998

1996

Quake is released by id for Intel PCs, expanding upon the Doom legacy with better graphics and more multiplayer action.

1996

Nintendo releases the Nintendo 64 console.

3D graphic accelerator cards becomes a major sub-marketplace within the personal computer industry.

1997

Ultima Online is released by Origin for Intel PCs, establishes the Massive Multiplayer Online Role Playing Game.

1998

Half-Life is released by Sierra for Intel PCs, revolutionizes first player shooters with a compelling story.

1998

Sega releases the Dreamcast, the first 128-bit console.

The Fourth & Fifth Generation 1999 - present (12/2006)

The rise of Multi-player games, the introduction of 64/128-bit consoles including the PS2, GameCube, and XBoX.

Mixing of PC & Console; introduction of new consoles including the X-Box 2; PS3; and the Wii.

Chronology of Computer Games 1999 - 2002

1999

Everquest is released by Sony for Intel PCs. It revolutionizes massive multiplayer gaming.

2000

The Sims is released by Maxis for the Intel PCs. It revolutionizes simulation gaming.

2001

Black and White is released by Lionhead Studios for the Intel PCs. It revolutionizes the god genre.

2002

Grand Theft Auto III is released by Rockstar Studios for the PS2. It raises the bar for free-form gameplay on consoles.

2000

Intel releases the first 1 GHz Pentium CPU for personal computers.
Sony releases the PlayStation2 console.

2001

Microsoft releases the XBoX console.
Nintendo releases the GameCube console.

2002

Microsoft and Sony create online connectivity options for their respective consoles. Players now can compete with their consoles across the world.

Chronology of Computer Games 2003 – 2006

2004

WarCraft Online is released by Blizzard Studios. It reaches 7 million players in two years

Grand Theft Auto San Andreas is released by Rockstar Studios for the PS2. Huge controversy is generated by its sex mini-game that is built into each version.

2005

Guild Wars is released by ArenaNet for Intel PCs. It is the first AAA online RPG that does not require monthly fees.

2004

Nintendo releases the Nintendo DS console.

Sony releases the PSP console.

2005

Microsoft releases the Xbox 360 console.

2006

Sony releases the Playstation 3 console.

Nintendo releases the Wii console.

Game Releases

Thousands of computer games are released each year. Not all games are created equal and some were true pioneers. I decided to provide a list of game releases just to improve the dialogue about what people may decide to label a game when it is released.

- Primeval - the first game of its kind. It generally becomes eclipsed by other games inspired by it. (Example: Wolfenstein 3D)
- Archetype - the classic game that is very popular and inspires a sub-genre with multiple clones. (Example: Doom)
- Lineage - a sequel/prequel that is directly related to another game through its setting. (Example: Ultima)
- Edition - a new version of the game that improves or refines game play. (Example: Civilization III)
- Expansion – an additional game pack that requires an original game. (Example: Creature Isles for Black & White)
- Modification - player-created expansions.
- Successor – a descendent game that captures the spirit of an old game that is about five years older and revives the game play. (Example: Serious Sam for Doom, Majesty for D&D Stronghold).
- Mutant – a game that transmutes the successful play of a game over to a new setting. (Example: Master of Magic being derived from Civilization, SimFarm being derived from SimCity).
- Imitation – a game that continues the tradition of a archetypal game and improves upon it or making it worth playing. (Example: Command & Conquer being inspired by Dune II)
- Clone - copies an archetypal game with moderate changes in presentation, minimal changes in gameplay and intricacy. Usually identified by mediocre implementation.

III. The Evolution of Game Genres

The Evolution of Game Genres

Our modern game genres can be traced using a flow chart. It is fascinating to see how the games relate and flow together. Like in biology, it is system of concurrent evolution - there is no single computer game that evolved into everything else. Instead, Space War inspired others to create their own masterpieces.

To understand the flowcharts, time is tracked from top to bottom of the page. Solid lines identify a direct connection or evolution. When a lineage is influenced by another Game Element then it will "shift" and the influence will be identified.

I have borrowed heavily from International Hobo for their classification system. Though they did not invent the terms, they did introduce the notion of computer games being organized according to biology terms.

An **Ecosystem** of video games represents the platform that the games are played on. The platform can range from video game consoles to browser based games to cell-phone games.

A **Phylum** of video games represent a broad genre classification, describing the basic mechanism of gameplay and containing common Game Elements. *For example, Action, Adventure, Strategy.*

A **Class** of video games represent a specific, completely defined subgenre of game. *For example, the Phylum, Action, contains several classes, including Combat (e.g.Space War), Bounce/Catch (e.g.Pong), Run/Chase (e.g. Pac-Man).*

An **Order** provides an additional refinement to the subgenre, usually locking it into a particular game format, such as a style of scrolling. *For example, Vertical Scrolling Shooter, Horizontal Scrolling Shooter, Top-down Scrolling Shooter (i.e. 360 degree scrolling shooter), Variable Scrolling Shooter (i.e. games like Salamander which contain multiple scrolling sections, in the case of Salamander, vertical and horizontal).*

A **Family** of video game is a collection of broadly identical games; the family is often named after the earliest species in the genus coupled with the word 'variant'. *For example, any of the dozens of Space Invader variants (including Galaxian, Galaga, Phoenix, Gorf) are considered of the family 'Space Invader variant' which is part of the Vertical Static Shooter order. Archetype...*

A **Genus** of video games is all versions of a different game in different manifestations, usually different versions of the game on different formats, but sometimes games that are similar but by different companies. *For example, Zoids (Spectrum) and Zoids (Commodore 64) are all members of the genus 'Zoids'. Similarly, Galaxian (Arcade) and Alien Invader (Arcade) are members of the 'Galaxian' genus, because the game play is almost entirely identical in both games. Me - perhaps this is the lineage of a game. Ultima I, then Ultima II, etc. Setting. - Star Wars games, etc.*

A **Species** of video game is a specific game in a specific format. There may be differences between different instances of the same species, owing to changes made in different countries, or in different arcades. *For example, Space Invaders (Arcade), Pac Man (Handheld) and Sonic the Hedgehog (Sega Megadrive/Genesis) are all examples of species. The particular unique version that appears Ultima II on Apple II and Ultima II on the C64 are two different species, both almost extinct.*

The Evolution of the Action Phylum

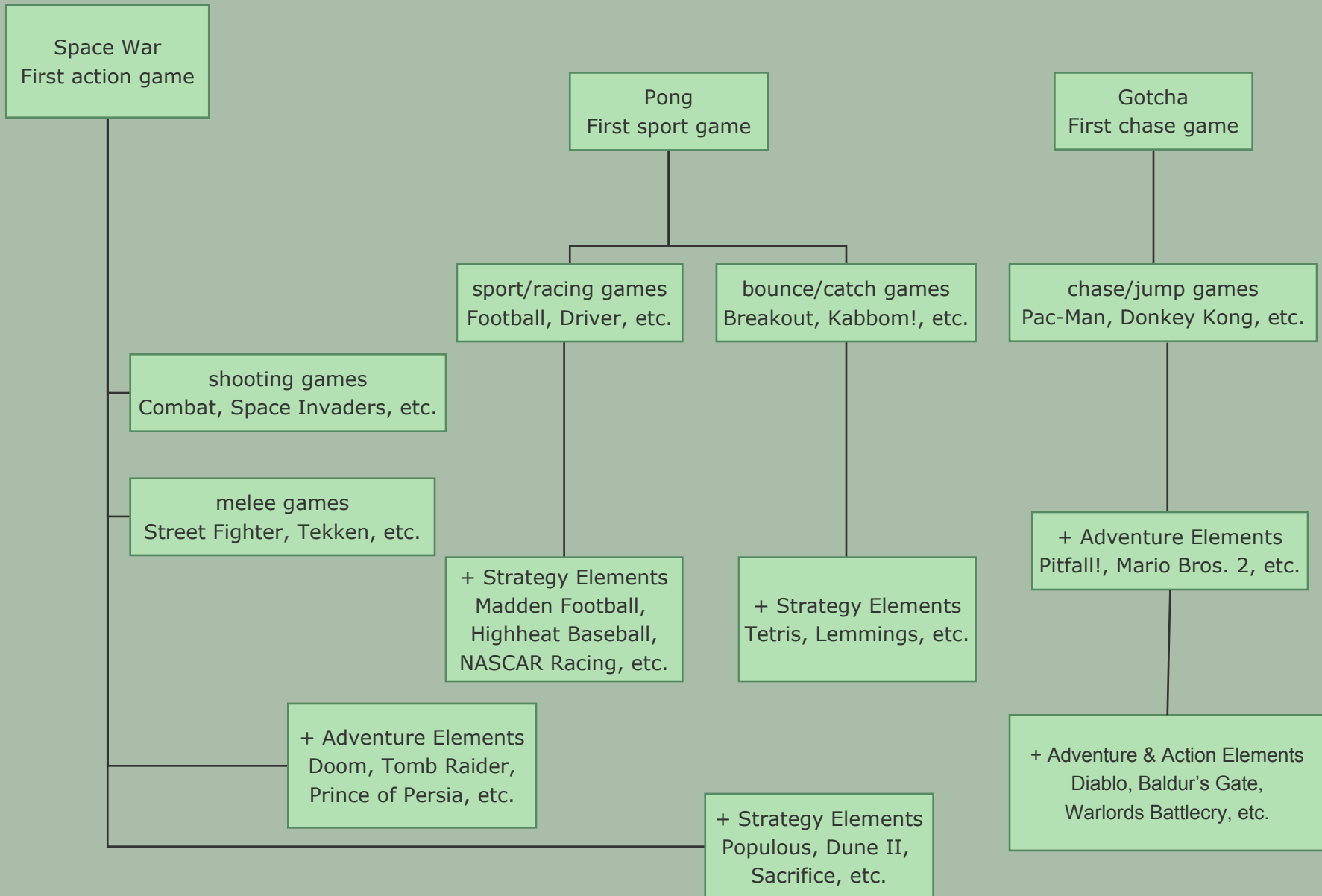
Three main games have established and influenced the Action phylum. They are Space War, Pong, and Gotcha.

- Space War created the Shooting Combat class where combatants use ships, tanks, guns, and other weaponry. This sub-genre was revolutionized with the addition of a first person perspective which created games like Battlezone and Wing Commander. Melee Combat is very similar to Shooting games except player uses a fighter with martial/wrestling attacks. There are some first person games in this class.
- Gotcha (1973) created the Chase/Jump class which inspired games like Pitfall!, Donkey Kong, and Mario Brothers.
- Pong created the Catch/Bounce class inspiring games like Kaboom!, Breakout, and Tetris. Pong also influenced the development of non-violent games in the form of the Sports/Racing class.

The Action Phylum has become infused with Strategy and Adventure Game Elements:

- Action + Strategy = The creation of Real Time Strategy, Action Strategy, Action Puzzle, and Sport/Racing Simulations sub-genres with games like Command & Conquer, Sacrifice, Tetris, and Highheat Baseball.
- Action + Adventure = The creation of Seek & Shoot/Slice, Action Adventure, and Action Puzzle sub-genres with games like Tomb Raider, Doom, Lemmings, and Donkey Kong Country.

Evolution of the Action Phylum



The Evolution of the Strategy Phylum

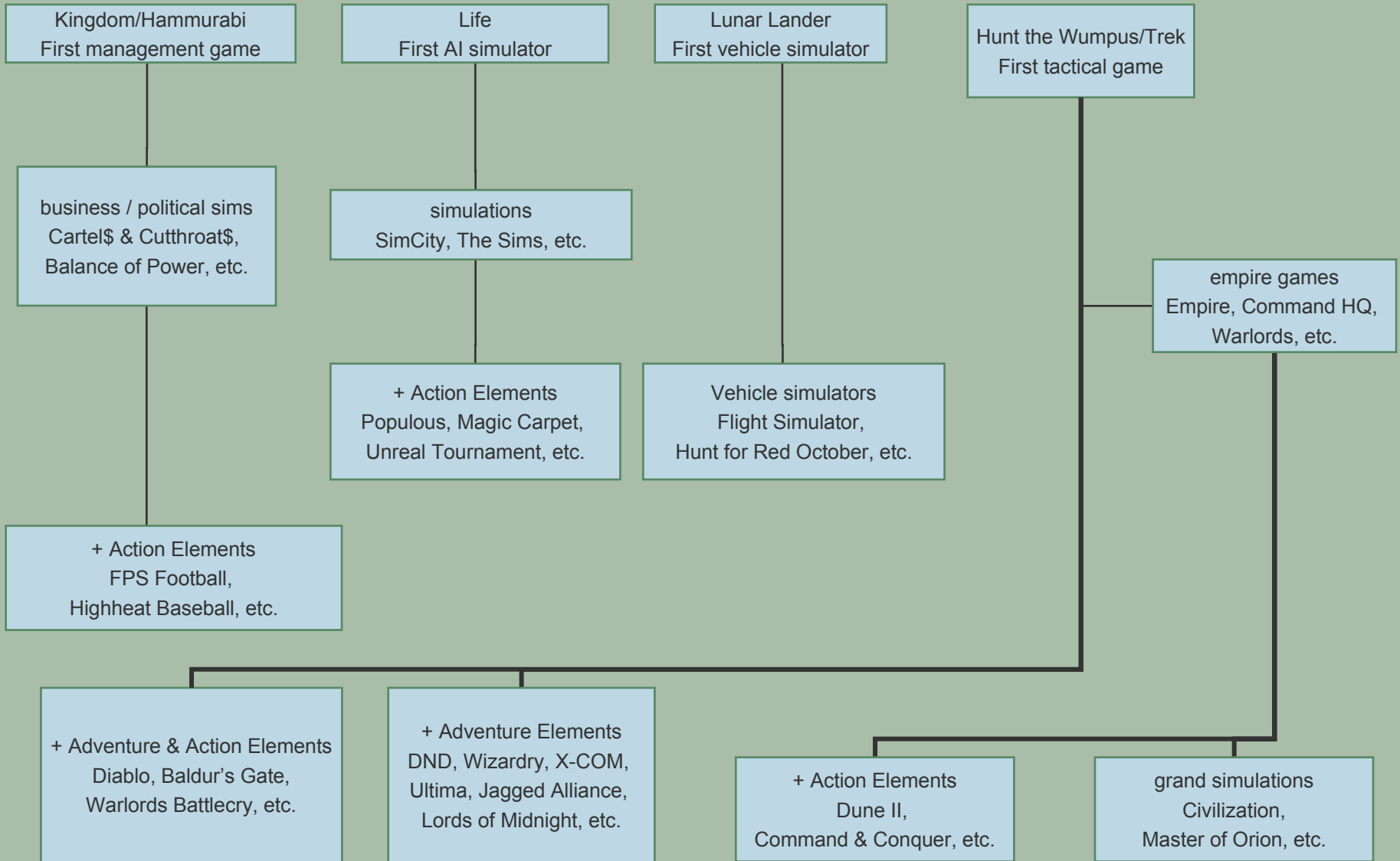
Four main games have established and influenced the Strategy Phylum. They are Kingdom, Life, Lunar Lander, Hunt the Wumpus/Trek, and Amazing Maze Game.

- Hunt the Wumpus & Trek created the Tactical Strategy sub-genre with its focus on tactics to win the game and requiring minimal resource management. This influenced the creation of the RPG class.
- Lunar Lander inspired the creation of the Vehicle Simulators class.
- Kingdom inspired the creation of the Business/Political Simulation class.
- Life inspired the creation of the Artificial Intelligence/Systems class.
- The Amazing Maze Game (1976) was the first puzzle game played on a computer. It was the pioneer game that led to puzzle giants like Tetris.

The Strategy Phylum has become infused with Action and Adventure Game Elements:

- Strategy + Action = The creation of Real Time Strategy, Action Strategy, and Sport/Racing Simulations sub-genres with games like Command & Conquer, Sacrifice and Highheat Baseball.
- Strategy + Adventure = The creation of Role Playing Games, Adventure Strategy, and Squad Strategy sub-genres with games like Ultima, Dune, and X-COM.

Evolution of the Strategy Phylum



The Evolution of the Adventure Phylum

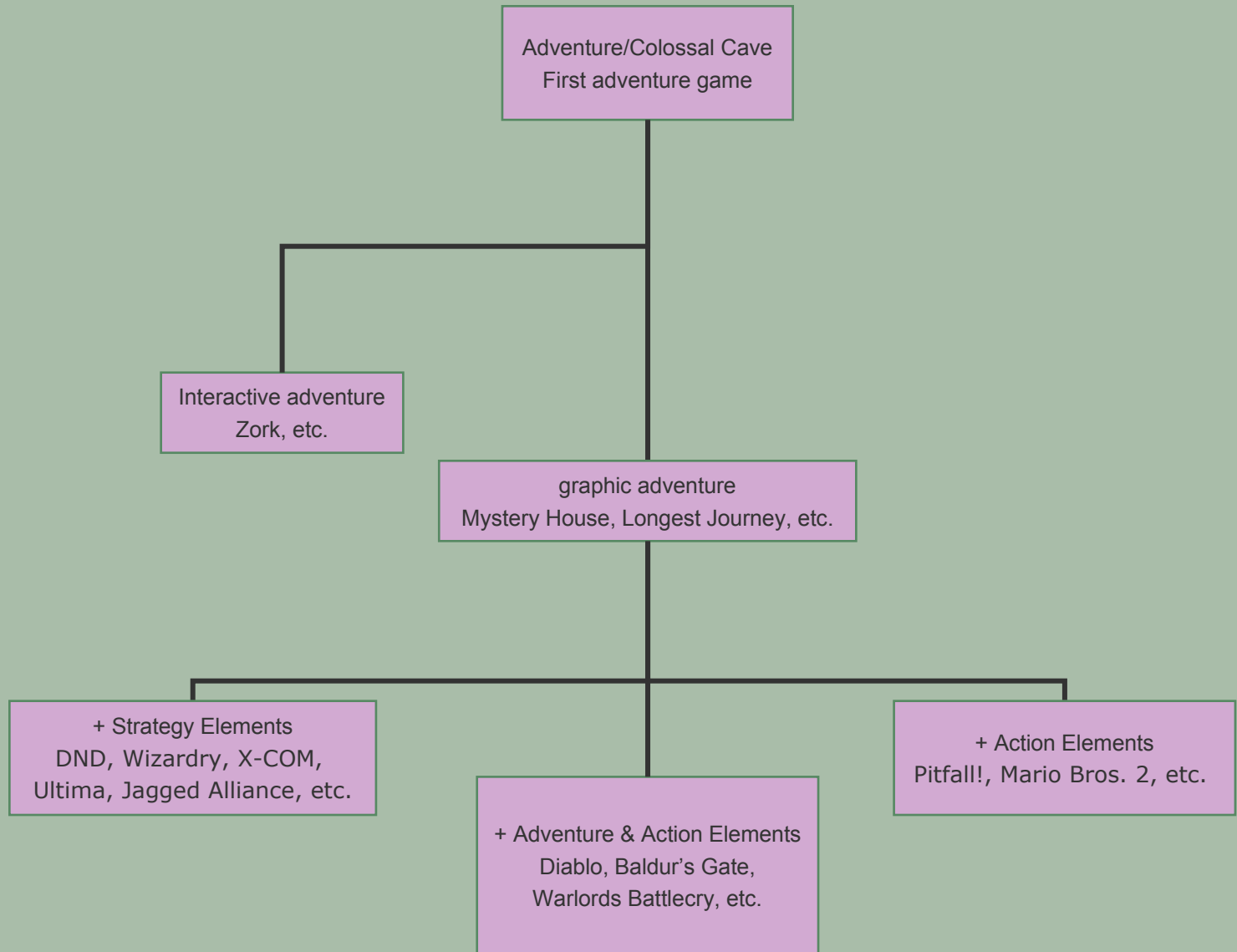
One game was critical in establishing Adventure phylum. It is aptly called Adventure.

- Adventure created Classic Adventure sub-genre which consists of both Interactive Fiction and Graphical Adventures like Zork, and King's Quest.

This Adventure method has become infused with Action and Strategy Game Elements:

- Adventure + Action = The creation of Seek & Shoot/Slice, Action Adventure, and Action Puzzle sub-genres with games like Tomb Raider, Doom, Lemmings, and Donkey Kong Country.
- Adventure + Strategy = The creation of Role Playing Games, Adventure Strategy, and Squad Strategy sub-genres with games like Ultima, Dune, and X-COM.

Evolution of the Adventure Phylum



IV. Parting Words & Sources

Thanks for Reading!

- Thanks to Chris Bateman and International Hobo for their outstanding work on the History & Taxonomy of Computer Games.
- **About the Author and this Work**
- Christopher Billows is a being who is fascinated with systems. From advocating for personal responsibility to enjoying complex computer games, he is a sucker for systems theory. This eBook is his modest attempt to more deeply understand and enjoy the most advanced form of entertainment in existence.

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