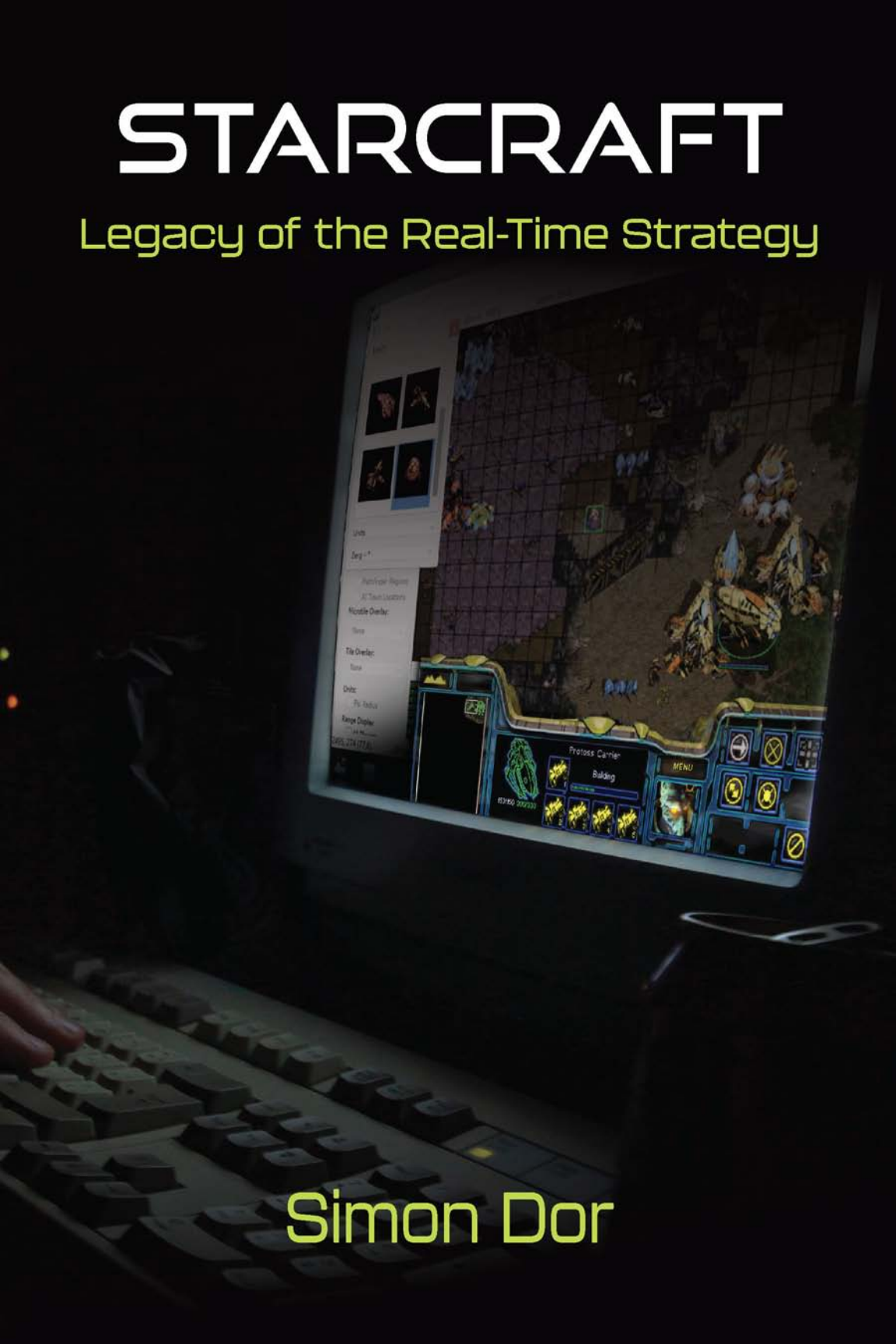
STARCRAFT

Legacy of the Real-Time Strategy



Simon Dor

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by Simon Dor

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LEGACY OF THE REAL-TIME STRATEGY

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Introduction

My experience with *StarCraft* could be mapped into three periods that represent the history of the game itself. I was introduced to real-time strategy (RTS) games when my cousin brought their copy of *Warcraft: Orcs & Humans* (Blizzard Entertainment 1994) at my grandparents' house. My brother and I got the game quickly after and, as most players from the early 1990s, I was playing essentially in single-player mode. I would only have an Internet connection at home in 1999, during my teens, so I have fond memories of the few times I played *Warcraft* and *Warcraft II: Tides of Darkness* (Blizzard Entertainment 1995) in multiplayer through modem play, although I would not be remembered for my feats in these endeavors. Playing against humans and playing against computer opponents are two different universes, and I could only have a small glimpse of the former.

When *StarCraft* came out March 31, 1998, I knew I had to buy the game. Rather than two mirrored factions in a fantasy universe as in its predecessors, *StarCraft* brought three factions fighting for their survival in a sector of the Milky Way. The Terrans are humans using complex mechanical technologies, exiled from Earth a long time ago, and initially rallied under a Confederation that exploits colonies on different planets. Zergs are creatures taking various insect-like forms morphed from larvae and controlled by central brains, the Cerebrates, under the scrutiny of their Overmind. The Protoss are emaciated warrior aliens gaining their power from psychic capabilities and robotic technologies and regrouped in a caste-based society. These factions (most often called "races" to borrow the term from *Warcraft*) battle against each

Fig. 1. Main cover art for *StarCraft* and its expansion, *Brood War*

other and struggle with internal conflicts through the narrative of each campaign. Blizzard Entertainment as a whole team is credited for the "Game Design," but Chris Metzen and James Phinney are listed as "Lead Designers." In November 1998, less than a year after the game release, Blizzard launched the *Brood War* expansion set that would add new game units and a new campaign for each race.[1]

Something from the game imprinted my imagination. I would design a website on *StarCraft* at lunchtime in high school, and I was ambitious (or more accurately naive) enough to have a section called "Strategies." I felt the game was *powerful*; it unlocked in my mind quite a potential. Pierre Lévy (1994, 93) makes the distinction between "pouvoir" and "puissance" in French, two different words both usually translated in English as "power." But *pouvoir* is more closely associated with political institutions and limits possibilities, while *puissance* (translated as "strength" in Lévy's works) opens potentials. In that sense, *StarCraft* felt "strong" for me. It had a campaign filled with an interesting narrative

1. *Brood War* is often used to refer to *StarCraft* in general, the "*Brood War* era" referring to the e-sport period where *StarCraft II* was not released yet.

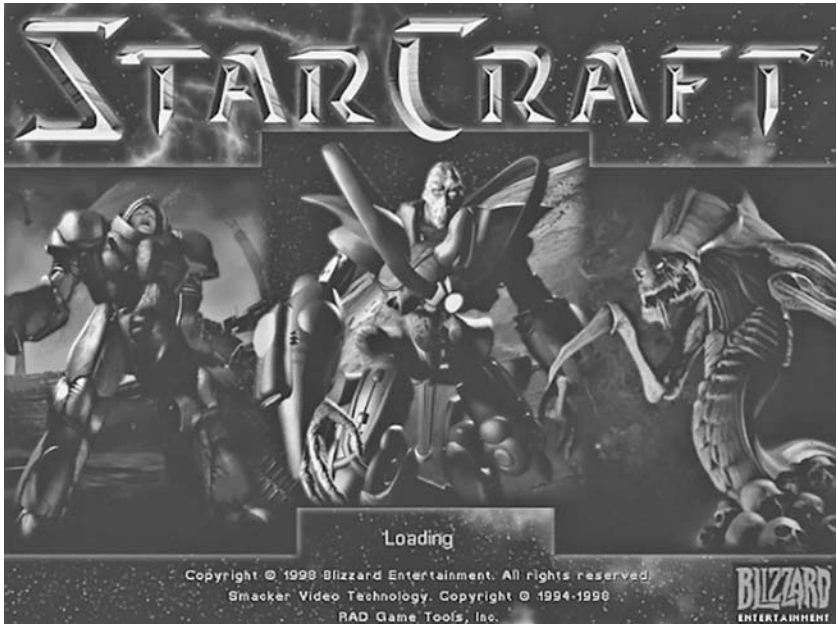

Fig. 2. Original loading screen for *StarCraft*, showing typical characters respectively for Terrans (a Marine), Protoss (a Zealot), and Zerg (a Hydralisk)

where "decoding" skills, as I will call them here, were central. Yet, multiplayer mode felt like mind games where one had to "foresee" what their opponent is doing to choose their own course of actions. Moreover, my brother and I used the campaign editor that accompanied the game to create our own campaigns and scenarios adapted from our homemade tabletop role-playing games, with approximate English voice acting. I remember playing a few skirmishes against strangers on the Battle.net server, mostly in team fights with friends, but it was not a central aspect of the game for me.

A Narrative Around the Game

I came back to *StarCraft* in 2007 when I decided to analyze a video game for my Master's thesis. I wanted to compare *StarCraft* and *Warcraft III: Reign of Chaos* (Blizzard Entertainment 2002) in terms of narration. *StarCraft* have units called "heroes" who have a name and play a role in the story, and most campaign missions have a "your heroes must survive" winning condition, thus letting the narrative unfold without losing any important characters. Consequently, they are mostly left in the player's base, as protected

as possible. In *Warcraft III*, heroes have different skillsets than normal units and can be revived if they die; they can be used in offensive strategies without too much risk. In *StarCraft*, their role is mainly narrative: heroes do not exist in multiplayer games. I quickly realized that, by focusing on the narrative in the game, I was missing the truly interesting narrative *around* the game.

This period corresponded roughly to a first attempt at internationalizing e-sports.[2] *StarCraft* competitions in South Korea were kind of a myth for me and mostly unknown in my social circles. The first tournament I watched was a "GOMTV Classic" in 2008–2009 on the GOMTV video-on-demand platform, commentated by Nick "Tasteless" Plott, who would become one of the most renowned *StarCraft* caster, and Daniel "Super Daniel Man" Lee, whom I would later learn had been the manager of the *StarCraft* World champion Guillaume "Grrrr…" Patry (Eudes 2001, 8). The arrival of YouTube shoutcasters—the word used for e-sports commentators—was a way for e-sports to grow outside of South Korea. In 2007, e-sports "ambassadors" such as Tasteless and Dan "Artosis" Stemkoski moved to South Korea in the hope of launching their career as casters (*Asia Pulse News* 2012). They were among more amateur YouTubers who casted game tournaments using low-quality Korean footage from a tournament and dubbed their own commentary over the Korean one, widening its accessibility (T. L. Taylor 2018, 147).

A few game scholars were interested by *StarCraft* before that period, including Florence Chee (2005), Alexander R. Galloway (2007), and Gerald Voorhees (2008). T. L. Taylor was already doing fieldwork during the *StarCraft* tournament in Seattle at the World Cyber Games 2007 for her upcoming *Raising the Stakes* (2012). There were many contributions on the game in *Gaming Cultures and Place in Asia-Pacific*, edited by Larissa Hjorth and Dean Chan (2009a). But even to this day, RTS games in general are only marginally considered in most histories of video games (see Kent 2001, 2021; Wolf 2007; Donovan 2010), with a few exceptions very recently when they are included in e-sports segments (for example, Stanton 2015, 268–75). There was of course a "linguistic" and "cultural" gap between Korean e-sport and mostly English-speaking researchers, but this gap was redoubled by a "competitive" gap: it is not easy to know

2. Although e-sports are more officially composed as "esports" following the recommendations of the Associated Press Stylebook (Witkowski 2022), I will use "e-sports" throughout the book to respect the original wording of the *StarCraft* communities.

what happens on the screen and why it happens in any strategy game, yet alone one that is played at a professional level. Novice players were not commonplace on online servers 10 years after the game released; trying to win on the competitive *Brood War* third-party server iCCup was not an easy task, and I cannot say that I succeeded.

In that sense, the release of *StarCraft II: Wings of Liberty* (Blizzard Entertainment 2010) was an occasion for the rest of the world to jump on the RTS e-sports boat. Rather than having a fear of missing out of the first iteration, a lot of new fans could come and appreciate competitive strategy gaming. In 2011, I attended the first "Barcraft" event in Montreal: a night club opened its doors on a Sunday morning until the night to stream live on a giant screen the 2011 MLG Pro Circuit Orlando. It felt very strange: for the first time, I was not alone enjoying other people playing a video game. Since tournaments at that time were mostly streamed behind a paywall,[3] being there to see matches live *and* with friends and strangers was quite an event. The low-quality YouTube videos from a few years before seemed like ancient times. I watched live the victory of the Canadian Protoss player Chris "HuK" Loranger against Korean Protoss player Jang "MC" Min-chul, and the crowd cheered as they would in any sports bar while confetti dropped from the ceiling. The *StarCraft II* area would be a period of normalization for e-sports outside of South Korea.

Seeking Another Meaning

I briefly came back to playing *StarCraft* more seriously in 2017, when *StarCraft: Remastered* came out. The *Remastered* edition supports wide screen resolutions, includes more detailed 2D graphics and sound, restores a ladder function, and adds a matchmaking feature. The original game and its expansion are free-to-play since this *Remastered* edition.

StarCraft II had been released in 2010, and had two expansions: *Heart of the Swarm*, in 2013, and *Legacy of the Void*, in 2015. *StarCraft II* changed drastically throughout the years: the expansions and major patches not only added new units, but also removed some important ones and changed the overall timings, thus altering the gameplay irremediably.

3. T. L. Taylor notes that MLG had a "pay per view" business model which they eventually dropped (T. L. Taylor 2018, 180). Some of the negative comments from gaming community are gathered in forum messages (see xrapture 2012).

StarCraft: Remastered, on the other hand, was meant to be as similar as *Brood War* as it could. To quote Grand Davies, senior software engineer at Blizzard Entertainment, the developer's "top priority was not to change the game but to keep it exactly *as it always has been*" (quoted in *Korea Times* 2017, my emphasis). Although it might make sense in terms of software engineering alone, this quote is the exact opposite of what I argue in this book: *StarCraft* has not *always* been what it is today. If *StarCraft II* was arguably the first strategy game *designed* to be an e-sport, *StarCraft* is the first that *became* an e-sport. It has clearly not *always been* one.

It is a common bias to interpret a video game as a set of game rules implemented in hardware. Most game scholars agree that the cultural components of playing games are a fundamental part of them. Of course, it does not mean that players are free from any constraints when playing. Maude Bonenfant (2015, 39–40) explains that even if one could freely play without any constraints whatsoever by the game rules, they would still be constrainted by discourses, and by their own knowledge about games. Players's "freedom" is still limited by one's prejudices and cognitive schemata, and the discourses in which play makes sense. Play has conditioned our automated perception; the way signs are organized in a game gives a certain meaning, "which has as consequence that the player does not 'seek for' another possible meaning" (Bonenfant 2015, 42, my translation). *StarCraft* has been so closely associated with competitive play and Korean e-sports over the years that it is difficult to seek for another meaning; my goal is to do exactly that.

The influence of *StarCraft* on PC gaming, e-sports, and strategy games is undeniable. However, a game is not a monolith that delivers its secrets once we interpret it. Playing it means being part of a culturally embedded activity that is more complex than the cultural context of its production. As Melanie Swalwell warns us, as historians, we must go beyond the original experience of a game (2017, 220).[4] To some extent, the goal of this book is to follow Stephanie Boluk and Patrick LeMieux's definition of "metagame," which is "not the history of the game, but the history of play" (2017, 17). Rather than focusing on how the history of *StarCraft* was inevitably going to produce the first e-sport—which is of course not

4. The *Remastered Edition* of the game changed some things in the original engine that are difficult to keep track of, including effects like an "SD Graphics Filter" and "Real-Time Lighting" in the options. While I turned the "HD graphics" off to take screenshots for this book to get a better sense of what the game was like in 1998, some new functionalities might be shown in the UI or visual effects turned on.

true—I will trace back the diversity of usages of the game in gaming culture. Through a great timing and especially through a strong dedication and key decisions by its creators, its fans, and corporations seeking an opportunity, *StarCraft* shifted from a conservative but refined RTS game of the 1990s to an innovative e-sport in the 2000s. As we will see in the first chapter, it shifted from a decoding game to a foreseeing game. It is a landmark video game not for the history of its design, but for the history of its gameplay.

I cannot hide that I am a fan of *StarCraft*; I cannot see any reason why someone would want to write a whole book on a single video game without a certain dedication to it. The time required to play and understand a video game would be difficult to invest without having a genuine interest in play, even if it breaks the expectations that scientific investigation necessitates a pure "objectivity." As Christian McCrea describes while writing on the same game, "a pretense of such objective distance is impossible" (2009, 179). At the same time, I will often refer to historical sources created by fans throughout this book—it has become a standard in game studies (Guins 2014, 85). While their view on the game might be "biased" by their love of it, most of gameplay history would be lost without their contribution.

Overview of Each Chapter

As we will see in the first chapter, *StarCraft* contributed its rock to the pyramid of what I call the decoding paradigm, while establishing the core fundations of the foreseeing paradigm in strategy games. The decoding paradigm has existed in strategy video game for a long time and implies the existence of artificial opponents that the player must think as game obstacles to be understood. Foreseeing, on the other hand, is similar to most board games where every player has predefined sets of tools and must anticipate everyone's actions. These paradigms are fundamentally different ways of playing but coexist in most RTS games.

In that sense, *StarCraft* has a strange relationship with innovation and conservatism. Chapter 2 will tackle this paradox by underlining how the game is an intensification of common RTS tropes. Its narrative is not especially original, using science fiction stereotypes and usual mission briefings, while adding game characters with whom the player interacts and some narrative sequences during missions. It is conservative in terms of representation, following sexist and ethnocentric tropes, and it refused the "innovation" that 3D graphics represented. Its intensification

can really be felt by the interface and controls, which favors the swifter rather than the overthinker.

Chapter 3 will put in context *StarCraft*'s gameplay through gaming conventions and its technological conjuncture. The idea is to understand the context from which a diverse set of practices could propagate, including but not exclusively e-sports. The problem of balancing a game through game patches will be explained, especially since multiplayer is renown for its infamous "Zerg rushes." The material infrastructure necessary to play online—Battle.net—and its consequences on gameplay will be covered. In the end, the goal will be to underline how the conjuncture was perfect to foster foreseeing play.

Chapter 4 will cover how the sociocultural context of South Korea was a key part of how e-sports emerged. I will explain the role of governmental initiatives in spreading broadband connections and the importance of PC Bangs in changing the image of gaming in culture. I will also describe the golden age of the game and the immense social and cultural phenomenon that progaming was during the 2000s in South Korea. Ultimately, I will explain how Korean e-sport is structured around foreseeing.

The last chapter will cover the extent to which *StarCraft* would expand its scope through the campaign editor. As with most games with an editor, players create their own maps to fight with their friends in their own custom skirmishes. But the editor went far beyond that: new game rules could be implemented and mini-games quickly emerged through this. While Blizzard gave the tools for players to experiment in their engine, players needed their own tools to extend this experience. That is how game hacks became common in the community, to the point where they are normalized and essential to organized progaming.

Each chapter will unfold one specific aspect that makes *StarCraft* more than a list of game rules, but a game that has an history of its own—which could, arguably, be true of each game. *StarCraft* will help us show the legacy of RTS games in gaming culture. First, let us explore how two different histories found a point of convergence in RTS games, and how *StarCraft* became the core example of this convergence. As we will see in this first chapter, most RTS games that emerged in the 1990s are both decoding and foreseeing games.

CHAPTER 1

Decoding and Foreseeing

> … we looked back at our previous games and realized that our solo campaigns have never prepared anybody for an online experience at all. That never worked, right? We always sort of touted it that way — "It's going to prepare you" — but it never really did.
>
> — DUSTIN BROWDER, LEAD DESIGNER OF *STARCRAFT II* (QUOTED IN REMO 2009)

Two Conceptions of Game Time

If competitive play often leads to epic confrontations on the battlefield, sometimes the fight is quite short. During the second iteration of TeamLiquid StarLeague (TSL) in 2009–2010, the American Terran player Gregory "IdrA" Fields was matched against the American Protoss player Tyler "NonY" Wasieleski (nevake 2010a). IdrA had won the first game and started the second one by building a relatively fast second Command Center with one of its SCV—Terran's worker unit—to have an economic advantage. Each player usually sends one of their first worker unit to scout, and that is what NonY did. But this worker unit also frequently annoys their opponent by attacking their counterparts while they perform their normal tasks—a tactic called "harassing."

And thus, NonY harassed IdrA's SCV building its Command Center to try to disrupt his attention. IdrA decided to switch the SCV building the structure: the normal maneuvre would be to click on the SCV performing the task, and to click ESC, then the next SCV could take when the first left. Unfortunately, IdrA misclicked: he clicked on the Command Center rather than on the SCV before hitting ESC, and thus cancelled

the construction. He lost 100 minerals, but more importantly lost precious game time since he would need to start over the construction. To the surprise of the casters, IdrA then precipitously but irrevocably typed "gg" (for "good game"), losing the second game of the match.

While in a lot of sports, every second counts and can be the one where a goal is scored, in *StarCraft* competitive games the first seconds of the game have repercussions on every second of the rest of the game, since its game economy is based on growth. *StarCraft* has a strong positive feedback loop regarding time: the beginning of the game is crucial to determine the endgame. If the experience of video games tends to be expressed in terms of space, competitive real-time strategy games should definitely—as their name suggests—be considered first and foremost as temporal experiences. The value of the first seconds is higher than that of the last seconds of a game.

This conclusion might seem counterintuitive, since a player can have a lot of time to recover from an earlier mistake. It is also not true of every *StarCraft* experience; it is mostly true in competitive or skirmish games. It is what makes the difference between what I will call the *decoding* paradigm and the *foreseeing* paradigm.[1] The information management of *StarCraft* is wholly different when playing a solo battle or in the campaign—in the *decoding* paradigm—or when playing an online battle—in the *foreseeing* paradigm. As we will see, each of these paradigms have a history of their own.

The very definition of strategy is different depending on the paradigm considered. The decoding paradigm is when the player must detect tendencies in the actions of the artificial intelligence opponent (called "computer" in the game) to anticipate future actions. They cannot be certain of the exact series of actions that will unfold or be possible; often, one can be sure that some actions, while theoretically possible, will not take place since it is not a tendency for the AI to do so. The decoding paradigm is the player "guessing" what the "rules" of the games are.

Most contemporary multiplayer strategy games rather fall under the foreseeing paradigm. Game actions are literally "foreseeable." Every possible action in the game rules has its own prerequisites and players can easily manage to either read about them beforehand in the game manual

1. I used to call these two paradigms "decryption" and "prediction" to translate the French words "décryption" and "prévision" (see Dor 2014a). But I sense these words do not induce any clarity. I must thank Bernard Perron for suggesting the new translations and using them in his work (Perron 2018, 113).

or try them in a custom game. Just as every player knows that a poker game has four Queens, they know that training Arbiters implies the construction of a Citadel of Adun, a Templar Archives, and an Arbiter Tribunal, and thus can anticipate Arbiters if they scout those buildings. The foreseeing paradigm *starts* when the player knows the rules of the game.

Real-time strategy (RTS) games before 1998 were often games solely inscribed in the decoding paradigm, and their legacy lived on in *StarCraft*. By being an accessible and competitive multiplayer game, *StarCraft* also built on games from the foreseeing paradigm: you can foresee your opponent's actions by knowing their gaming possibilities and reading their strategy. Both these paradigms are important when considering the historical importance of *StarCraft*. The goal here is thus to see how the emergence of the foreseeing paradigm in the 1990s reaches a landmark with *StarCraft*. This chapter describes the historical background from which both paradigms of RTS gaming emerged.

The first section will describe the core rules of *StarCraft*, applying to both paradigms. The second section will describe the history of decoding, showing how Westwood Studios' games since *Dune II: The Building of a Dynasty* (Westwood Studios 1992) have influenced the RTS genre. The third section will show, on the other hand, how multiplayer games such as those from Ozark Softscape played a significant role in the history of foreseeing, until modem play became more widespread. I will argue that *StarCraft* in the history of gaming is the main point of convergence between the decoding and foreseeing paradigms.

A Classical RTS

StarCraft is a classical RTS game and a common point of comparison for other games in the genre. The player must collect two types of resources (minerals and vespene gas), create and manage buildings and units to destroy every building of their opponents. The player clicks on their units to give them specific orders (move, attack, patrol, etc.) or use their special abilities.

Each unit is a "type" following what game designers Andrew Rollings and Ernest Adams called a tile-based aesthetics (2003, 340): 12 Marines will be represented as clones, with the same figure on the interface, the same voice when responding to orders, the same morphology on the game space. This aesthetics makes the game space easier to understand cognitively and strategically: the same unit types will have the exact same properties. Players also have an attributed color so that their units and

buildings can be easily recognized. The game is set on a pre-created map that determines the topographical elements of the game: starting and resource locations, bridges, cliffs, ramps, etc. It is a quintessential example of why Pascal Garandel argues that video game space is first and foremost a means to an end, almost every element of it being geared towards play (2012, 131).

Each unit, building, technology, or upgrade costs a certain number of resources—minerals and gas—spent once. Worker units collect resources by moving back and forth from the main buildings to mineral patches and vespene geysers. By training more workers, the collection process will be faster and, eventually, the player needs to build a new main building near another resource location: an expansion.

Buildings have different functions: to collect resources, to train military units, to research upgrades and technologies, or to fight. For every faction, buildings are organized in a technology tree: creating a building will unlock other buildings, but also units, upgrades, and technologies. For instance, if a Zerg player wants to build Mutalisks, they will need a Spawning Pool, then to upgrade a Hatchery to a Lair, which will let them build a Spire needed for this flying unit (Fig. 3).

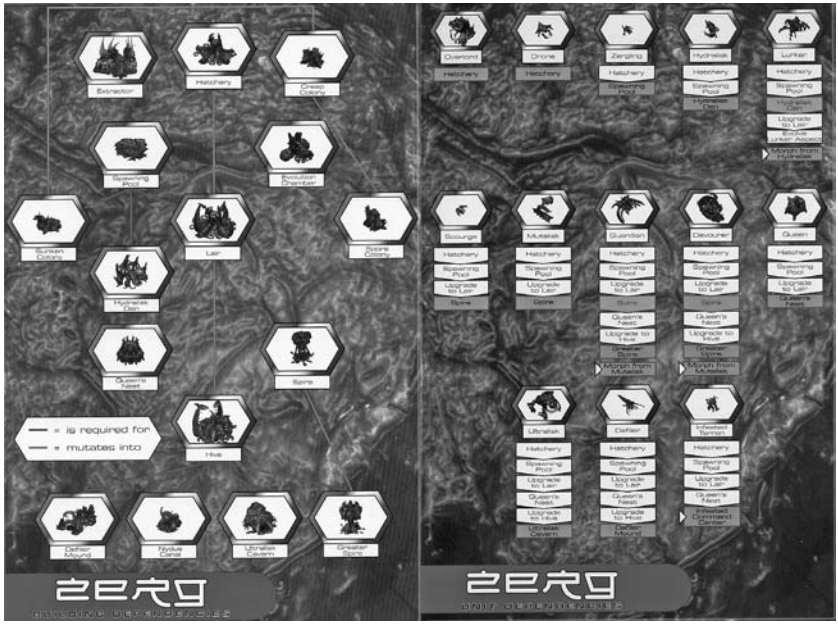

Fig. 3. Zerg building and unit dependencies, part of their "technology tree," as annexed in the game box

StarCraft is a "real-time" strategy game since players perform their actions simultaneously. The units and buildings respond to player-issued orders through mouse clicks or hotkeys; the action then takes a certain time and the unit or the building accomplishes it autonomously. The player can then manage something else during that time. They must thus use their time efficiently, trying to time each action without having to wait for a certain task to finish. Units are either ground or air units. Their weapons can be melee or ranged, and attack ground, air, or both unit types.

The actions of the opponents are hidden from each player; they must explore and periodically scout their opponents' bases to know what they are doing and where their units are. *StarCraft* uses the same kind of fog of war as popularized by *Warcraft II*. The game space is initially hidden to the player; they must scout to discover the topological elements of the map. Friendly units must be around enemy units to reveal them; otherwise, they remain hidden (in the "fog of war") (Fig. 4).

The Decoding Paradigm

The *StarCraft* campaigns are a series of levels (or "maps") to complete linearly. Each map is contextualized narratively and gives a set of predefined units, buildings, and topography. The player must fulfill specific objectives, stated in a mission briefing: in the "Norad II" scenario, they must bring a hero and two dropships at the site of a crash to rescue the survivors. In other scenarios, they must "survive 30 minutes," "protect a building," or simply "destroy all enemy buildings." Rather than having to create their buildings and units, computer players already have their own bases and will mainly react to the player's actions and execute prescripted moves. In the "Norad II" example, the Zerg computer player already has plenty of Spore and Sunken colonies protecting the site of the crash.

The campaign is a clear and strong example of the decoding paradigm: the goal is to decrypt the opponent's patterns or scripts and respond to these actions; the player "decodes" patterns in a figurative sense. The interest of decoding is to offer a challenge to a single player. They must somehow find an efficient strategy to overcome each obstacle or each map one after the other. In most maps, the equilibrium to reach is between having an efficient resource-collecting flow and defensive or versatile military units.

Fig. 4. The “fog of war” principle. Top, a hidden location. Middle, a location actively revealed by friendly units. Bottom, a previously explored location without active friendly units

In "Norad II," the player's buildings are already under attack, and they must be defended. Once the first blitz is countered with our initial military units, as Bart Farkas underlines, "there's only a short period of time for you to get your defenses back up before the next onslaught" (Farkas 1998a, 102), while "six to ten SCVs to start gathering resources" should be enough (103). Building a too large amount of worker units could lead to insufficient defense.

In the decoding paradigm, the opponent acts in a precise way "encoded" in the game. In a successful game design, the player can anticipate their opponent and respond efficiently; this optimization characterizes this paradigm. By trial and error, or by intuition or habits, the player will know what to do and not to do. But in some cases it is not predictable at all:

> Whatever you do, don't attempt to build any units near Norad II, and don't attempt to launch any attacks from this position. If you do, you'll bring the wrath of the Zerg down upon you, and the mission will be over.
>
> (Farkas 1998a, 101)

Of course, there is no narrative nor strategic reason for the Zerg to not attack the crash site immediately. When the opponent starts with four bases and an army size at maximal capacity, they would quickly win, but the game would be too hard: the computer will never do that. The rules by which the AI plays must be decrypted.

In the decoding paradigm, a player never "knows" what an opponent *can* do; they must guess what it will do based on their previous experience of the game. Using the terminology of the pragmatic philosopher Charles S. Peirce, a player will forge a habit of mind, "[t]hat which determines [them], from given premisses, to draw one inference rather than another" ([1877] 1991, 147). In strategy video games, one could talk of *strategic habits*: players forge inferences by observing their opponents acting or reacting similarly under similar circumstances.

In the decoding paradigm, these *strategic habits* are forged through experience with anterior enemy actions. For instance, players will know how to counter Hydralisks or Mutalisks, provided they have seen them before. They could also forge more general patterns of mind, observing for example that AI units tend to attack in small squads on base entrances. The player will play similarly when similar circumstances happen again: they are perceived as specific occurrences of a same phenomenon. In a case when they failed to predict the algorithm, or the opponent unleashed an attack larger or different than expected, they

can simply reload the game from a previous state and try again to refine their habits by trial and error. Strategic habits of the player (how *they* will act predictably) are forged according to strategic habits of the AI—what players observed and how they forged inferences.

The player is a privileged agent in the dynamic of each strategy: it is important that their experience is interesting and that they have a chance of winning. As such, the decoding paradigm is reflected in a specific conception of game balance. In *Fundamentals of Game Design*, Ernest Adams states that a game is balanced when it provides meaningful choices and when it places player's skills as a main criteria for success (2014, 404). In a decoding paradigm, game balance is to be evaluated in a player-versus-environment setting (PvE): the game is said to be balanced when there is a stable difficulty level and when the player's enjoyment is maximized (Adams 2014, 418). The goal is not that each player (human or computer) has an equal chance to win the game, but that the privileged agent—the human in front of their computer—has a satisfying experience, whatever that means. It is more similar to Roger Caillois' *ludus* than *agôn*: "The difference from *agôn* is that in *ludus* the tension and skill of the player are not related to any explicit feeling of emulation or rivalry: the conflict is with the obstacle, not with one or several competitors" (Caillois [1958] 2001, 29).

To borrow a concept from game theory, the decoding paradigm is a "mixed motive game."[2] The AI does not have any interest whatsoever in winning, except if it makes the game interesting for the single player. The human player can have the goal to win the game, but the computer players aim to deliver an interesting experience for the human player(s). Whether the AI plays like a human or not is only a secondary goal.

The heuristic circle of gameplay that Bernard Perron put forth (2006, 66), inspired by the work of the cognitive psychologist Ulric Neisser (1976, 112), is appropriate to describe cognitively the player's experience in decoding mode (Fig. 5). To explain the perceptual cycle, Neisser uses the concept of schema, which is internal to the perceiver and "directs movements and exploratory activities that make more information available, by which it is further modified" (1976, 54). The player perceives images and sound from the game (new state), which will help to select the correct schemata and direct sensori-motor action that will act on keyboard and mouse. For example, hearing the voice of the adjutant robot

2. Elizabeth Bruss (1977, 159) adapted this concept to illustrate the relationship between author and readers in literature; Bernard Perron (1997, 234) adapted it similarly for films.

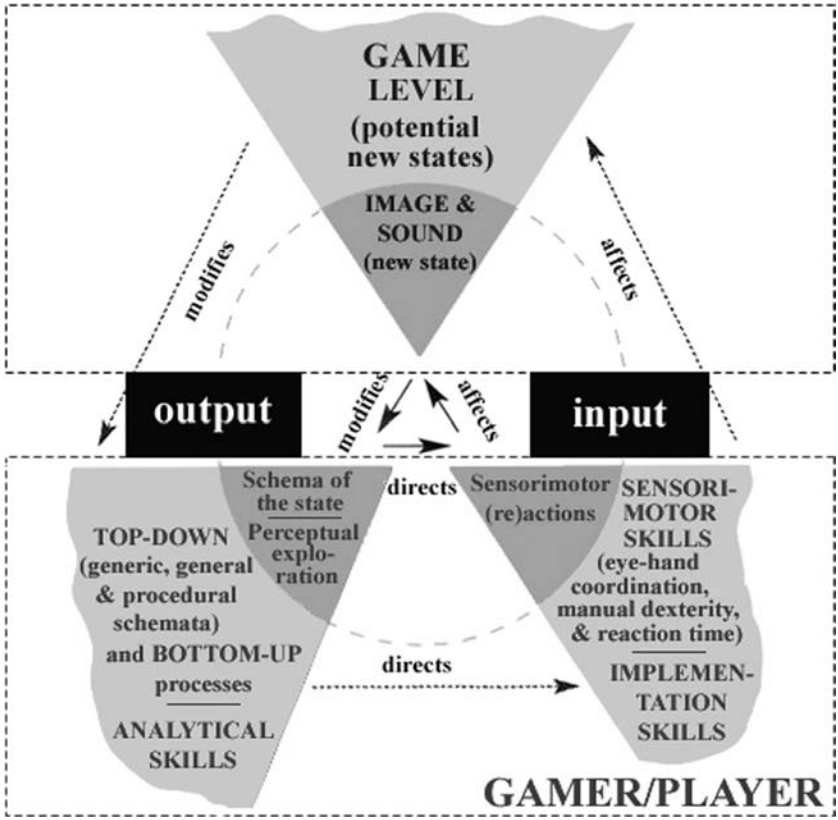

Fig. 5. The Heuristic Circle of Gameplay by Bernard Perron

stating that their base is under attack, while seeing a red ping that signals where the attack is will prompt them to click on the spacebar to quickly move the camera there. They will click on a control group to select one of their army and bring them where they are needed; the game will show the result of their actions on screen.

The outer circle works simultaneously: the potential new states in the player's mind will change how schemata are selected, and how sensori-motor actions will prioritize mechanics.[3] Their reaction to the

3. The word "mechanics" has a specific meaning in RTS play games. Liquipedia defines them like this: "Mechanics is your execution of micro and macro. Fundamentally, your mechanics, as a player, represent the degree to which you have bridged the divide between mind and game—that is, your ability, as a player, to do what you want to do" (TeamLiquid 2019a).

visual and sound cues were not innately inscribed in their mind; it is inscribed in a schema established because they *learned* that these cues mean they are attacked. If they know that their base is often attacked by small squads before they have time to build a proper army, they will have forged a schema in their mind to prioritize that choke points must be rapidly well guarded. Having executed repeatedly game mechanics such as moving armies fast will improve general sensori-motor skills and will open potential new states that takes advantage of these skills. This is not to say that variations on a strategy will not work. As one reviewer notes on *StarCraft*, the missions "are wide open to your particular style" (Coffey 1998, 168). Yet, in the decoding paradigm, some strategies will work while others will not, and the only way to confirm that a strategy works is by trial and error.

Let's analyze the scenario "Shadow Hunters," ninth episode of the original Protoss campaign, to show how Perron's heuristic circle of gameplay works. Protoss units face a Zerg army and must eliminate two Cerebrates, special buildings that are massive brains controlling the Zerg forces in the lore. As in a few previous episodes, the player begins without any building. The fact that they start with workers modifies the initial schemata: they must find a resource location to build a Nexus. They also start with a few Zealots and Dragoons—the first Protoss military units—but a new unit is introduced in this scenario: an Arbiter, a Protoss vessel that acts as a spellcaster and that "cloaks" surrounding units, rendering them invisible except if they are detected by specific units or buildings. They also have two hero units: Fenix, a Dragoon, and Zeratul, a Dark Templar that has a permanent cloak. If the player explores north, they will see Zerg creep and Sunken colonies defending the path; they will know that either east or west are better directions to go with their precious and fragile workers. Since a base takes some time to be established, the player can deduce that enemy attacks will not come in the first minutes; "setting up structures and researching upgrades" before building many units seems to be working (Kasavin 1998b).

The two resource locations are at the bottom of the map, but at the extreme opposites, and a choke point in the middle of the map redirects every ground unit movement. In fact, most strategy guides underline that ground attacks frequently come from the center: Photon Cannons (Farkas 1998a, 200) and/or Zealots (Dark Vortex 2007) should be positioned there. The map is quite large, and defending two bases could be difficult; yet, even flying units such as Mutalisks and Guardians will mostly attack at the choke point rather than at your mineral lines

(IGN-GameGuides et al. 2017), although Kasavin insists some Photon Cannons should also protect "the north edge of your base" (1998a).

The opponent uses Defilers for the first time in the campaign: it is "constantly" used (Dark Vortex 2007) and their Plague ability "bypasses Protoss shields and cuts straight to your hit points, which are irreplaceable" (Kasavin 1998c). Their Dark Swarm ability reduces to zero the attack score of ranged units within a large orange fog that has a long duration. While the static defense with Photon Cannon and Shield Batteries are assimilated as a good habit for defense, the Defiler adds a new challenge by forcing Protoss forces to move to avoid staying under the Swarm. The schema must be modified: static defenses are not enough when Defilers come into play. The introduction step by step of new abilities helps to learn the basic rules of game units that will also be at play in the foreseeing paradigm.

The IGN wiki identified that eliminating an Hatchery in the middle of the map will result in no more reconstruction of defensive buildings from the Zerg and fewer attacks on the player's bases (IGN-GameGuides et al. 2017). In the same vein, Greg Kasavin states that since most detector units are located north of the map, Zeratul can eliminate a lot of Sunken colonies, a Hatchery, Ultralisks, and the Ultralisk cavern, the latter being a way to "face far fewer Ultralisks over the course of the battle" (Kasavin 1998b). Here, only a specific decoding could tell us why an Ultralisk cavern cannot be built again when one is destroyed. Eventually, the player should have a sufficiently large force of Carriers to protect the center of the map (Dark Vortex 2007), while their main ground army supported by one or two Arbiters strikes the north bases one at a time.

Scrutating a map in such details shows us that it is built around specific challenges to confront existing strategic habits. If we were to oversimplify them, these challenges become sort of "puzzles" to overcome. In the decoding paradigm, strategic habits establish what can happen. If the campaigns are the quintessence of the decoding paradigm, it also works for custom games played against computer opponents. Decoding has been the dominant paradigm in the early history of strategy games.

Decoding the Origins of the Genre

In the 1980s, some wargames or strategy games were similar to contemporary RTS, in the sense that actions had to be conveyed quickly and without interruption. Most games set in a military context and with

an "arcade" aspect or with actions implemented under a certain stress (with or without a "pause" phase) could bear similarities with *StarCraft*. In general, the games with a strong verisimilitude with real war were called "wargames," while other more fantasy- or sci-fi-based were "strategy games" (see Dor 2019). *Eastern Front (1941)* (Chris Crawford 1981), *Stonkers* (Imagine 1983), *Combat Leader* (Strategic Simulations Inc 1983), *The Ancient Art of War* (Evryware 1984), or *Crusade in Europe* (MicroProse 1985) are common examples. These prominent cases are all single-player games: the decoding paradigm is paramount at this period.

In September 1990, *Computer Gaming World* starts its description of new strategy games presented at the *Consumer Electronic Show* like this: "Real-time strategy is becoming extremely popular" ("To 'Knight' The Knights" 1990, 76). *Star Control* (Toys for Bob 1990) is one of its example, even though today it would probably be called a turn-based strategy game with real-time combat sequences. In July 1991, Lawrence S. Lichtmann also begins a review underlining the importance of the genre, this time for *Overlord* (Probe Software 1990): "Real-time strategy games are a hot item right now" (1991, 58). These games are still quite different from *StarCraft* and its influences. Three games from the 1980s–1990s are direct influences on the decoding paradigm still at work in *StarCraft*: *Populous* (Bullfrog Productions 1989), *Dune II*, and *Warcraft*.

Populous is the prototypical "god game." Garth Fitzmorris describes it as a "real-time strategy game hit from Europe where the players fight cosmic battles from a quasidivine perspective" (1989, 40). Each level puts the player in the seat of a god managing a village and having to deal with a rival god managing their own populace. The god changes the environment to make it suitable for the villagers, which have their own autonomous agency: they build and upgrade houses, recruit new villagers, and fight mostly by themselves. Having a larger population unlocks new skills for the god to influence the world. Game reviews barely mention the multiplayer mode. *Mean Machines* state that it is "neither arcade nor true strategy" ("Populous" 1990, 52). While Rand and Glancey states that the 5,000 maps on the Master System version are very repetitive (1991, 105–6), Evan M. Brooks underlines indirectly the decoding aspect of the game when he insists that the maps are diverse, and that they "*require* a slightly different strategy" (1991, 37, emphasis mine). The goal is not to outwit an adaptative opponent, but to find the right strategy for each level.

The decoding paradigm is emphasized by the strategy guides. One of the most dreadful opponents seems to be the knight. Two guides from

GameFAQs suggest a strange way to counter the knight, aside from building a knight of your own: change the game options so that the water becomes fatal to units, and then drown the knight in the water using divine powers (Darth GGW 1996; Jabu-Jabu 2000). Jabu-Jabu asserts that this strategy is necessary to survive levels 50–72, while Darth GGW is quite realistic about the exploit that it is: "The only reason I myself don't always drown the computer's knight is because it takes the challenge away. The computer doesn't drown your knight" (Darth GGW 1996). The simple fact that a strategy works everytime to "outplay" the AI underlines how it can be decoded.

Dune II: Building of the Dynasty almost unanimously claims the title of the most influential RTS even though it was not qualified as a "real-time strategy" in 1992, nor even perceived as a ground-breaking strategy game at its release date (see Dor 2014a) (Fig. 6). It mostly corresponds to the checklist of RTS characteristics from the 1990s and onward, and clearly popularized them. Colin called it the "game that started it all," and underlined how it already has "three races, each with their own special weapons and missions" (1998) as in *StarCraft*. *Dune II* is often compared to *SimCity* (Maxis Software 1989) and *Populous*; in terms of decoding, they work similarly.

Fig. 6. *Dune II: The Building of a Dynasty*

Dune II is presented as the sequel to *Dune* (Cryo Interactive Entertainment 1992) while both games were developed simultaneously. The publisher Virgin Games had the rights for *Dune* and commissioned an adventure game from Cryo Interactive Entertainment but, losing confidence in this team, bought Westwood Associates—which will become Westwood Studios—to develop a strategy game. However, Cryo did not forfeit and decided to promote its future game on its own budget, calling the press (Ichbiah 2009, 198). The developer will later send an almost finished game to Virgin Games, who will publish both games the same year.

One of *Dune II*'s game designers, Joe Bostic, indicated in a more recent interview that they took inspiration from their earlier games, *Eye of the Beholder* (Westwood Associates 1991) among others, and from *Populous* to decide that action would take place in real time (quoted from *NowGamer* 2009). The player character is a commander from one of the three houses fighting for the control of spice on the planet Arrakis to gain the Emperor's trust. They must thus produce spice harvesters, construct buildings to manage a base, and create military units to defend them. Every house has some unique units compared to the others, which they will have to fight on the battlefield, alongside the sandworm attacks in the desert that target every faction. The expression "real-time strategy" seems to have been publicly introduced retrospectively by Westwood Studios with the release of their *Command & Conquer* series: a review of *Red Alert* notes that *Dune II* "created the real-time strategy category" (Broady 1996) while a writer from *Amazing Computing* states that it is the game that "installed the mantra 'real-time strategy' in the PC vocabulary" (Olafson 1997, 42). If the description of *Dune II* evokes the classical RTS, there is a fundamental difference: contrarily to *Populous*, it does not have a multiplayer mode.

The role of scouting in *Dune II* shows how it is inscribed in the decoding paradigm. A walkthrough suggests that the player should send their initial military units to scout in order to map the location of resources and the opponent's base location, and then to reload the game with this information in mind (DKennedy 1995). The time lost collecting the information is thus regained. The same walkthrough states that the player should not "explore too far until you have built a good defence up. The computer at the start works on a strategy of 'If you can't see him [the computer opponent], he can't see you!'." Of course, this strategy works because the computer has been programmed to respond to the player's actions. The strategy that Jeff James suggests to counter the

Death Hand is even more obviously one in a decoding paradigm. The Death Hand is a mass destruction weapon that is used by the opponent in late campaign levels, and that can pulverize more than one buildings with only one strike: James simply suggests to "save often" (1993, 112) to know where the strike will be and reload to minimize the damage. There is no way to foresee potential actions rather than having already seen them in a previous playthrough. As we have seen, *StarCraft*'s campaign works in a very similar way.

In 1991, Frank Pearce, Michael Morkhaime, and Allen Adham found Silicon & Synapse—which would quickly be renamed Blizzard Entertainment (Blevins 2001). Their first released games were ports, but they eventually developed their own original games for Nintendo consoles: *The Lost Vikings* (Silicon & Synapse 1993) and *Rock & Roll Racing* (Silicon & Synapse 1993).

The first Blizzard RTS game, *Warcraft: Orcs & Humans*, was mostly seen as a *Dune II* emule or copycat by game reviewers (Falcoz 1994, 148; *Coming Soon Magazine!* 1995; Lombardi 1995a, 228) and it was explicitly assumed (at least later) by their developers. It was acknowledged by Patrick Wyatt in a blog post that the obsession of their team for *Dune II* led to the production of *Warcraft*, especially because it was "obvious that this gaming style would be ideal as a multiplayer game" (2012a). Both games are similar up to a point that seemed very uncommon in 1994. Lombardi (1995a, 228) notes that a *Dune II* player can probably beat half of *Warcraft* without looking at the game manual, which says a lot about the role of manuals in the 1990s.[4] Its main original aspect is the multiplayer mode (Geryk 2001; Walker 2002a, 2; Fahs [2009] 2012, 1). *Warcraft* was quickly eclipsed by its sequel, *Warcraft II: Tides of Darkness*, that would be released less than a year later.

In *Warcraft*, each single player map offers a new challenge where previous strategic habits will not always work, offering new "puzzles" to be decoded. It "is a trial and error process requiring you restart a half dozen times before you figure it out" (Lombardi 1995a, 232). As with the *Populous* and *Dune II* examples, the precision of some gameplay description is unequivocally a decoding experience. Kang and Asher give tips for the fifth Orc level, stating that 12 spearmen are necessary: seven to

4. Cusick also underlines the crucial role of the game manual for *Dune II*: "You have to be prepared to spend time learning how to play games like this, although the lengthy manual is very helpful and easy to digest" (1993, 114).

defend the left bridge, five for the right bridge (Kang and Asher 1995, §5-2-5). While it is obviously arguable that this army composition is the only valid one, such a precision in stating the defensive position only makes sense if the opponent's strategy stays sufficiently stable. Their tips for the twelfth Human level were similar to the Ultralisk cavern underlined with our Protoss example earlier. Daemons attack the town periodically, but "[a]ll daemons are created by one single orc warlock, if you find him and kill him – no more ugly daemons to worry about" (Kang and Asher 1995, §5-1-12). If this behavior were not decoded, the player would suppose that their opponent would simply create a new warlock to summon daemons.

Some strategic habits seem to outlive a single level: such is the case of the "puller." The player must establish a defensive line in a choke point (ex: a bridge) and send a single unit that will drag the enemy into it. The opponent "will follow you to your 'ambush.' Works every time" (Lin 1995) (Fig. 7). Some levels will need variations of this strategy: for the tenth Orc level, Boehmer states that a conjurer will attack on the first few minutes, but once "you've setup your formation, just treat it *like any other level*, send in a puller, kill the defenders, and destroy" (Boehmer 2009,

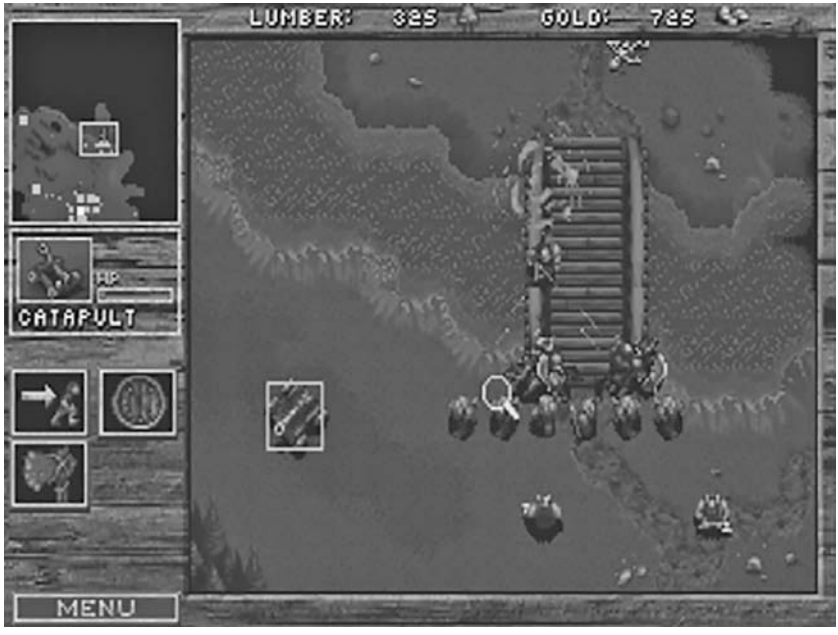

Fig. 7. *Warcraft: Orcs & Humans* and the puller strategy

§3.10, my emphasis). The simplicity of these behaviors is somehow balanced by the uneasiness of the controls and the fact that the computer evidently "cheats": for example, clerics can heal other units without any magic points restrictions.

The decoding paradigm has its legacy in other game genres. The player has to decode the pattern of boss fights in *The Legend of Zelda: A Link to the Past* (Nintendo EAD 1991) as in *Elden Ring* (FromSoftware 2022). The "die-and-retry" pattern has a lot in common with decoding, albeit maybe with a shorter cycle than in most strategy games. In role-playing games like *Octopath Traveler* (SquareEnix and Acquire 2018), one must anticipate the weaknesses of specific enemies and choose their actions wisely. In tower defense games like *Plants vs Zombies* (PopCap Games 2009), the player has to balance the growing of plants that generate energy and those attacking zombies with specific defensive devices. Decoding is a more precise way of describing one way to play strategically in games.

The decoding paradigm is strongly based on the fact that RTS games are games of "imperfect information" (Salen and Zimmerman 2004, 204). The opponent is hidden in the fog of war and knowing what it will do is one important aspect of the strategy. But, as Elliott Chin puts it in a strategy guide for *CGW*, "solo play leaves much of the richer strategy hidden" (1998, 236).

Michael Freed and his colleagues underlined how there is a wide gap between how a player plays whether their opponent is perceived as a human or as an AI:

> For instance, inhuman weaknesses in computer play encourage new players to develop tactics, prediction rules and playing styles that will be ineffective against people. Game designers often compensate for weaknesses in the computer's play by providing it with superhuman capabilities such as omniscience. However, such abilities render otherwise important tactics ineffective and thus discourage players from developing useful skills.
>
> (Freed et al. 2000, 1)

As soon as the player realizes that their opponent has omniscience and can see what their actions are, they do not develop the same skillset and game reflexes than when they play against a human opponent. To use James Paul Gee's expression (2004, 138), playing in single-player mode sets us straight on a "garden path" if our goal is multiplayer: the habits learnt for one situation are wrong habits for the other. As Dustin

Browder reminds us in the quote opening this chapter, "our solo campaigns have never prepared anybody for an online experience at all" (quoted in Remo 2009).[5] The skills needed to play in solo and in multiplayer are not the same. Consequently, creating the ruleset of *StarCraft* meant creating it for both paradigms.

The Foreseeing Paradigm

StarCraft can also be played in what the game calls "Custom Games." The player selects a map file (*.scm for *StarCraft* original, and *.scx for *Brood War*-only compatible maps) designed by Blizzard or by a member of the gaming community. While some maps are created with a precise experience in mind, most custom games retain the topographical elements of the battlefield and are meant to be experienced through the "melee" mode or its derivatives.

In this melee mode, a player starts with a single building and four workers. The goal is to destroy every building of your opponents. Maps are usually designed so that starting locations have a reasonable number of resources. They can be creative in terms of where other resources are reachable: a first expansion can be easily defendable or could need a flying transport unit to be reached. Up to eight players (including computer opponents) can fight together in a single game, and alliances with human players could theoretically be negotiated during the game. Other similar game modes ("Free for All," "Team Melee," "Top vs Bottom," "Capture the Flag") changed the general experience while maintaining the core aspect of the "melee" mode.

The "Ladder" mode is specific to multiplayer games and is the equivalent of ranked mode in other games. Players would join the Battle.net servers and play against opponents from different skill levels on maps specifically approved for this mode. Each victory would make the player

5. One reviewer of *StarCraft* though otherwise and, as Browder underlines, I remember that it was a relatively shared feeling at the time throughout the campaign: "I was left with the distinct feeling that the single player missions were simply training for people to play multi-player" (Colin 1998). Each map of the campaign would often introduce a new unit or a new mechanic to be learnt. For example, mission "Legacy of the Xel'Naga" of the *Brood War* Protoss campaign introduced the "Disruption Web" ability of the Corsairs to block attacks from ground units or buildings. Olafson echoes in some way Colin's criticism, but by underlining its virtue: "The designers let you into the game in a careful, gradual manner, in which business feels like fun and vice versa" (Olafson 2000).

earn some points, and each defeat would make them lose some, depending on the difference between their own ladder score—as an Elo rating system would do.

The foreseeing paradigm depends on custom games rather than campaigns. It is a game where players can foresee with more or less exactitude the future actions of their opponents to plan their strategy consequently. What is at stake is the anticipation of future actions by the observation of actual actions. In order to work, game rules must have some sort of predicting mechanism, for example, a technology tree. Foreseeing also relies on strategic habits. Each player, whether they are AI or human, could have been a human player. Foreseeing the actions of other players is possible because they could have been at their place.

The foreseeing paradigm can explain how gameplay is perceived in most multiplayer games. To win, they have to know what their opponents are up to and anticipate what they could do following game rules (having a Stargate means a Corsair can be in the game in 60 seconds, two Corsairs in 120 seconds, etc.) and following gaming habits—it is unusual, and therefore rarely foreseen, that a Scout will be out after a Stargate. In a classic playing-card game like the bridge, each set has the same cards (4 As, 4 Ks, 4 Qs, etc.). If I do not have a card in my hand, one of the other players must have it; anticipating your ally and your opponents' hands is crucial. Each decision would not be meaningful if it could not be foreseeable.

An RTS player can know beforehand that an attack can happen at, say, eight minutes of game time and anticipate approximately its force, since it could have been made by themselves if they were in their opponent's chair. They can, consequently, concentrate on countering this attack if it is possible. Ideally, designers of a strategy game in the foreseeing paradigm will make sure every efficient strategy can be scouted beforehand and can be countered by a strategy of some sort.

In this paradigm, game balance is not a question of game difficulty levels but of game players themselves. The goal is that every action has a way to be anticipated and can be—in some cases with high execution skills—countered. Historically, this paradigm emerges unsurprisingly with multiplayer games.[6] The arrival of modem games, where two

6. It is not to say that foreseeing is impossible with a computer opponent, but in *StarCraft* the AI was not efficiently coded to foreseeing: the opponent would be omniscient and respond to your actions whether they could normally see them or not. *StarCraft II* and other RTS games made it possible to some extent.

players can connect online through a telephonic line on their computer, can offer "authentic human competition as opposed to mere human-versus-computer action" (Brooks 1991, 37). No strategy is dominant in this ideal dynamic: the general game balance is more important than focusing only on a single player, since every actor in this dynamic can be a human player. In a two-player confrontation, for every winning player there is a losing player. Therefore, defeat is almost inevitable and core to the game.

The Heuristic Circle of Real-Time Strategy

Thinking of multiplayer strategy games as a paradigm where gameplay is "foreseeable" seems counterintuitive when it is clear that—as opposed to a computer opponent—a human player is mostly unpredictable. That is why a "foreseeing" paradigm is more suited to describe this experience than a "prediction" paradigm. In the *StarCraft* campaign, it is impossible to anticipate a future problem, except by trial and error, by learning the AI patterns and hoping they stick to them in other maps. The multiplayer experience is structured around foreseeability. Contrary to a single-player experience, reloading a game earlier is not possible; and, even if it were, it does not guarantee that an opponent will use the same strategy. Rather than being revealed by a previous experience, possible and plausible actions must be foreseen following game rules and strategic habits.

The Heuristic Circle of Real-Time Strategy will illustrate how the foreseeing paradigm works (Fig. 8).[7] Game states in the player's mind are of three kinds: (1) immediate, (2) inferred, or (3) anticipated states. These three states corresponds to: (1) the immediate seen and heard space; (2) a projection of the present unseen and unheard space; (3) a projection of the upcoming potential game states. An *immediate state* would be if a Zerg player perceives a Photon Cannon blocking a choke point in front of the Protoss expansion location. An *inferred state* would be the conclusion the Zerg player would make from what they saw, even if they did not see everything. The Photon Cannon has a prerequisite: a Forge. But they can also create an inferred state based on gaming habits: the Protoss probably has a Nexus protected by the Cannon to have an expansion operational. The player does not have to see the Nexus directly to

7. I presented this heuristic circle in previous research (in French in Dor 2010; in English in 2014b).

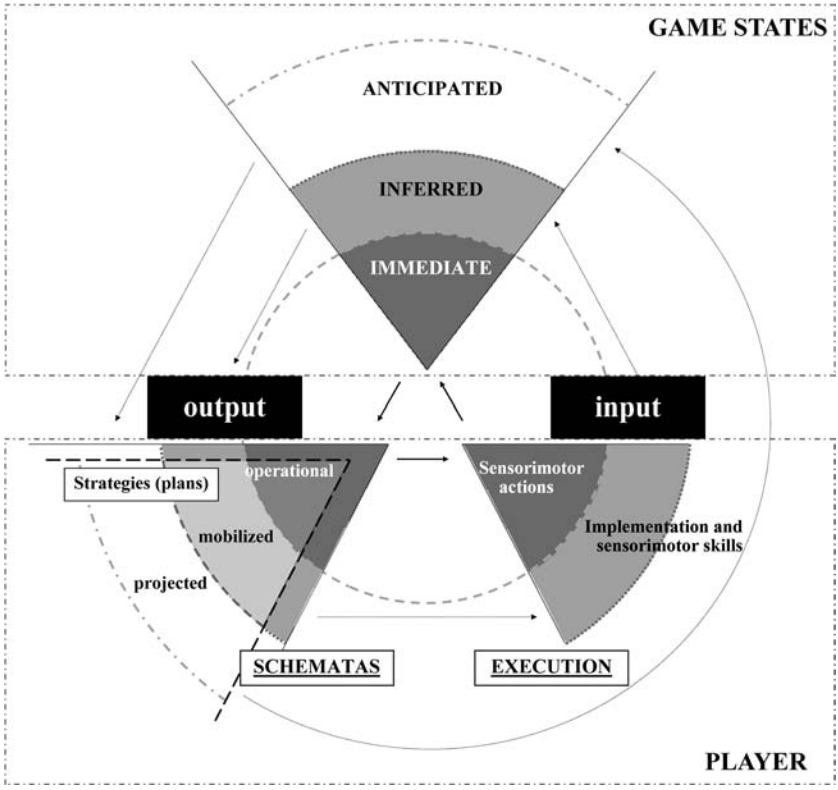

Fig. 8. The Heuristic Circle of Real-Time Strategy

know that it could be there. A third type of game state can come into play: the *anticipated state*. Following the fact that an expansion is established, the Zerg knows that the Protoss will not attack soon—for the cost of both an attack and an expansion is too high—but will have an economic advantage in a near future.

These three types of game states will help forge player's strategic plans, which I also describe in three levels: (1) operational (present and immediate); (2) mobilized (in short-term memory); and (3) projected (mostly stored in long-term memory). Following the anticipated state that an economic advantage could come for the Protoss, the Zerg could muster a *projected strategy*: to take an economic lead. This projected strategy helps to choose more narrow goals: *mobilized strategies*. I use this expression to describe smaller plans stored in long-term memory but rememorized as a task: take an expansion, protect the choke point, make a drop on the opponent's main base, etc. These mobilized strategies can be

mustered in a relatively small number at a time (in short-term memory) and can alternatively take the role of *operational strategy*. The strategy is operational when it *directly* guides the player's action. Expert players can very quickly alternate between different mobilized strategies, while novice players can have difficulties to operate more than one. Strategies and game states become so common in a player's mind that they create strategic habits to operate more quickly. Seeing that a Barracks is missing from a Terran's base automatically creates the logical inferred state: that Barracks must be hidden somewhere, and an attack is coming soon. The player's mobilized strategies will change to respond to that attack.

Let us see how they unfold dynamically. I will describe the skirmish between Korean Protoss player Doh "Best" Jae Wook and Korean Terran player Jun "Midas" Sang Wook, on the map "Grand Line SE," during the 2009–2010 Shinhan Bank Proleague (nevake 2010c). From an external observation, Midas' projected strategy is to have an economic advantage. He mobilizes at least two strategies: build a quick expansion and have a few military units. Best chooses a standard build order. His projected strategy is to be moderately aggressive at the beginning of the game. Amid his mobilized strategies, he has: (1) the harassment of Terran units with a Zealot; and (2) his standard opening. The Zealot supported by the scouting Probe managed to delay the Terran expansion by eliminating the SCV building the Command Center. Best retreats to keep his Zealot alive, but adapts his plan by sending another Zealot.

Midas then adopts an audacious projected strategy that goes against the current habits in Terran versus Protoss: to have an army composition of infantry, supported by a few Tanks, to take his opponent by surprise. To do so, Midas mobilized three plans: (1) defend his expansion by building a bunker; (2) progress in the tech tree by building a Factory and an Academy; and (3) grow his unit production by having four Barracks. Since Best knows that Midas is securing an expansion, he changes his projected plan: he will seek an economical advantage and keep map control. Best has three mobilized plans: (1) send a Dragoon and developing the Singularity Charge technology to attack the Terran bunker without a counter-attack; (2) build two quick expansions; and (3) build a Robotics Facility and an Observatory to have Observers. Since he does not know what is in the Terran's base, Best's mobilized plans are not really adapted to a quick attack. But, since Midas does not know either that Best has three bases, he attacks too late and cannot take advantage of a military superiority.

Best has enough time to have four Gateways and a Reaver before Midas' army strikes. Best takes Midas by surprise by engaging the combat: the Reaver quickly eliminates most infantry units before Dragoons join the fight. After this exchange, Protoss aims to contain the Terran player to his two bases, while Best will secure a fourth base. His economic advantage will translate into a larger army than Midas, while having the units more adapted to counter the Terran's infantry. Having possible expectations and playing with their opponent's expectations is at the core of foreseeing play.

Foreseeing the Future of the Genre

Multiplayer games are not all encompassed by the foreseeing paradigm. Don Daglow's *Utopia* (Mattel 1981) bears similarity with a lot of RTS. Two rival islands must manage their survival against natural disasters and their opponent's sabotage or naval skirmishes. Yet the game is a game of perfect information since an action cannot be hidden. Therefore, the foreseeability of an action is not necessarily an important aspect of the game. The same can be said of *Herzog Zwei* (TechnoSoft 1989), another one of the numerous games identified as the first RTS (Geryk 2001; Shaka 2001). The player's mech can morph in a plane and controls numerous bases to recruit new troops until everything is conquered (Fig. 9). Multiplayer matches are possible on a split screen; it is thus not a game of foreseeing. Strategy is seen as "limited" (Lapworth 1990), even if "everything happens in real time" (Glancey 1990, 103).

Unsurprisingly, multiplayer games were extremely rare before the advance of the Internet. There were early precursors like game designer Danielle Bunten Berry and her company, Ozark Softscape. Her vision for game design was very much focused on multiplayer experiences, whether they were offline like with *Computer Quarterback* (Bunten Berry 1981) and *M.U.L.E.* (Ozark Softscape 1983), or through modem play like with *Modem Wars* (Ozark Softscape 1988), to the point that she would be called the "Modem Master" (Emrich 1992).

Modem Wars is often identified as a predecessor for RTS games (Donovan 2010, 300), when it is not directly called an RTS (Gorenfeld 2003). *Modem Wars* was supposed to be titled "Sport of War" (Hockman 1989, 32), for the game dynamic is very similar to a sport like football. Each player starts with an army of grunts (infantry), riders (cavalry), boomers (artillery), and spies (reconnaissance units), and no new units

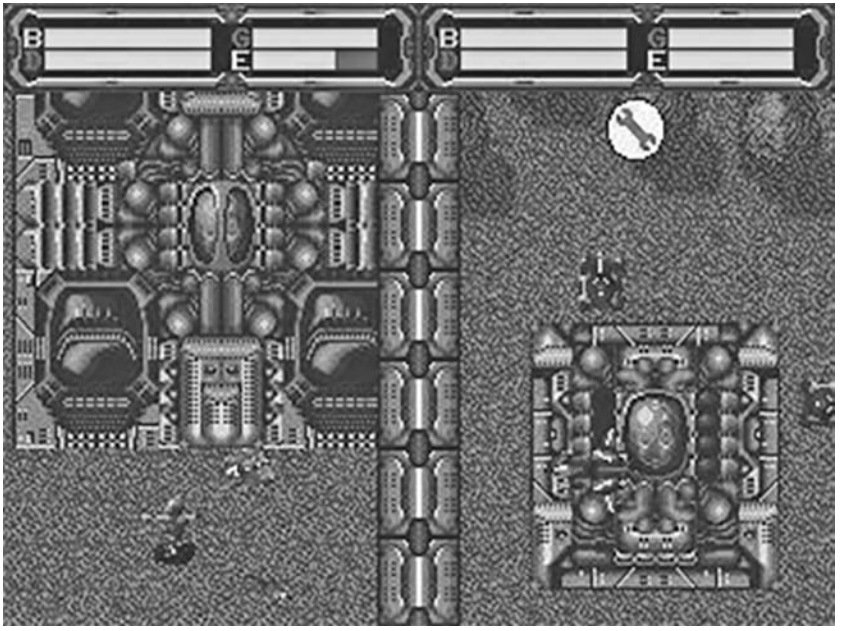

Fig. 9. *Herzog Zwei*

can join the combat. Various maps will modify terrain, starting units—often asymmetrical—and certain game rules, such as a preparation phase. Clicking on a unit and then at its destination will make it move and attack units in range automatically. Topography (hills, forest, etc.) changes line of sight and combat results. Rather than a minimap showing the whole space, the map occupies the majority of the screen while a smaller frame shows the specific space around the cursor (Fig. 10). The goal is to eliminate the opponent's command center.

In one of the only game reviews published around the release of the game, Daniel Hockman focuses on its competitive aspect, on the imperfect information of the game and the tension it creates, and on the "ability to develop strategy and tactics in real time" (1989, 32). He underlines that there are groups on the Quantum Link online service to play *Modem Wars* (1989, 32). The rarity of modems was probably the main reason why it did not reach commercial success (Gorenfeld 2003; Lowood 2008, 181; Donovan 2010, 300; Baker n.d.). Hockman even insists that the game is not worth it if it is only played against the computer (1989, 33), the solo mode being explicitly called "Practice with solo trainer." There was also

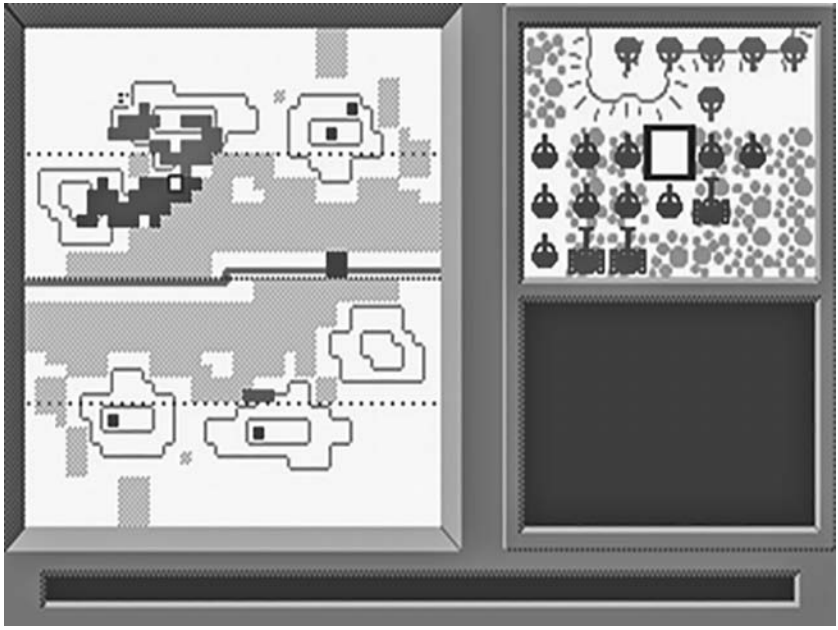

Fig. 10. *Modem Wars* (DOS version, emulated through DOSBox)

a "replay" function in the game, which let players watch their past games to improve themselves. It is also an indicator that it was designed for competitive play. Gameplay is more a question of positioning and tricking the opponent to engage in the wrong battles. Its gameplay is based on a certain foreseeing, but not necessarily as later RTS games would be since the anticipation is not based on any technological and economical progression. Bunten Berry will follow with *Command H.Q.* in 1990 and *Global Conquest* in 1992, which will reach a certain critical success but fail to be strong commercial hits.

The History of Two Paradigms

Modem Wars preconized multiplayer gaming, while the descriptions surrounding *Herzog Zwei* and *Populous* underlined solo gaming, even though all three games allowed both gaming types. The case of *Warcraft: Orcs & Humans* is more complex since both decoding and foreseeing paradigms are acknowledged in game reviews. For Thierry Falcoz, multiplayer gaming is sufficient to say that *Warcraft* is excellent (1994, 148). Travis Fahs from *IGN* describes exactly how multiplayer makes the translation from

decoding to foreseeing: "What was once a game of patterns became a battle of wits" ([2009] 2012, 1).

1995 saw the *Dune II* and *Warcraft* model being consolidated in game reviews and more clearly defined. The model of what RTS will be is slowly constructed with more precise conventions. While he acknowledges the direct influence from *Dune II*, Chris Lombardi from *Computer Gaming World* links *Warcraft* to Danielle Bunten Berry's games: "Here is where Warcraft really comes alive! Fast-paced, fun, and flexible enough to support a wide variety of tactics, Warcraft ranks up there with such classic two-player slug-fests as Command HQ and Global Conquest" (Lombardi 1995a, 232). He notes that the game needs an alternance between a "long-term planner and octopedal micro-manager with a quick but steady mouse hand" (Lombardi 1995a, 230). But it is in a preview of *Command & Conquer* that Lombardi uses the expression "real-time strategy" probably for the first time, albeit using "real-time" in quotation marks. He describes quite clearly RTS as a game genre:

> These games are very similar to your typical war and strategy game except that they don't afford the luxury of time to plot your moves. You give a command to a unit and it responds. Bang! There's no time to calculate attack factors, no counting movement points, no such thing as a well-considered stratagem. You make your decision now, or the enemy will be climbing down your throat. If you make the wrong decision, well, you quickly assess and adjust.
>
> (Lombardi 1995b, 32)

Still, it is quite difficult to know how most *Warcraft* or *Command & Conquer* plays would unfold in households. The game speed is influenced by the CPU cycles of the computer running it; there is no "canonical" speed. It is also quite complex to know how long a game would last or what were the most common strategies.[8] *Warcraft* shows how a game is more than the sum of its features: it can be a quasi-plagiarized version of *Dune II*, and yet build on the tradition of Bunten Berry's multiplayer games.

8. It is still interesting to note that a discussion that took place on a Bulletin Board System forum in November 1994—the month when the game was released—a user notes that they never have time to go beyond footmen/grunts and archers/spearmen units in the tech tree, while another one is surprised since they always have on their side catapults and spellcasters "in under an hour" (Bob Kusumoto, responding to Hulsey 1994). Considering that an hour-long RTS game is exceptionally long today, we can only imagine how long strategy games were in general in 1994.

In an interview with Jack Sorensen, president of LucasArts, in the May 1996 edition of *PC Powerplay*, the magazine notes how "there are *far too few*" real-time strategy games, with which Sorensen answers that the new ones "won't be nearly as good" as the originals like *Command & Conquer* (Sorensen 1996, 33, emphasis mine). In June 1998, two months after the release of *StarCraft*, the same magazine covered the development of *Star Wars: Force Commander* (LucasArts Entertainment Company 2000). Ironically (or not), their discourse is radically opposed: "You'd think that the real-time strategy game onslaught might have abated by now, but no—they just keep coming" (St John 1998, 16). In two years, RTS passed from an original genre which needs new iterations to an "onslaught" of new titles. In the 1998 context, *StarCraft* was clearly not an innovative step in the strategy gaming field. Yet, as we will see in the next chapter, it occupies a strange place in between innovation and conservatism.

CHAPTER 2

A Distinct Purity of Form

> A good game isn't a cool new view or a list of slick features. It's a whole that—whatever form it takes—somehow surpasses the sum of its parts. In that respect, Starcraft is, unequivocally, a very good game.
>
> — GAME REVIEWER FROM *GAMEPRO* (OLAFSON 2000)

Innovation and Conservatism

The Xel'Nagas are presented in *StarCraft*'s game manual as an extraterrestrial society that cultivated different species in outer worlds throughout the universe: they created the Zergs and the Protoss. When evolving the Protoss, they aimed to create a species with a "distinct purity of form," "focusing their efforts on the most promising of their engineered worlds" (Game manual, p. 71). *StarCraft* has a special relationship with the very concepts of innovation and conservatism in strategy gaming. *Edge Magazine* underlined this idea by stating that "Paradoxically, Starcraft is both Warcraft II in space and an abandonment of the Warcraft legacy" (*Edge Magazine* 1998). Game reviewers mostly agree that it is very similar to other real-time strategy (RTS) games (Hines 1998; Fehrenbacher, n.d.; Bohbot 1998, 30; Farkas 1999).[1] While some are quite skeptical, it is widely considered as a "pinnacle" of the genre (J. Shaw 1998) or as "the

1. I must underline that Bart Farkas was the author of two "Prima's official strategy guides" for *StarCraft* and *Brood War* before he wrote this review (Farkas 1998a; 1998b). Roughly a third of Hines' review is preserved online.

best game to ever adhere to that formula" (Dulin 1998). Olafson has an explanation for this paradox: new features or advances in the genre are often strongly pushed by marketing, but the interest of the game is probably "partly the very lack of those 'advances' " (2000).

The RTS formulae popularized by *Dune II* had a few years to spread but was quite widely adopted by the industry. When Westwood Studios decided to pursue their RTS endeavors, they realized that they would need to develop their own intellectual property. Released in 1995, *Command & Conquer* (Westwood Studios 1995) thus became the first of the most prolific franchise in the RTS genre in number of releases. Rather than having three factions fighting for spice on Arrakis, two factions fight on Earth for the control of a newfound resource called tiberium. Its sequel, *Command & Conquer: Red Alert*, would hit the shelves in October 1996, and features a Cold War alternative universe. Blizzard would release *Warcraft II: Tides of Darkness* only 12 months after *Warcraft*. A quick pace between releases seemed to be the RTS's rythm.

Game reviewers mostly compare *StarCraft* to two 1997 games in the science fiction setting: *Dark Reign: The Future of War* (Auran Games 1997) and *Total Annihilation* (Cavedog Entertainment 1997). Other lesser known strategy games were quite similar in terms of themes and visual appearance: *Earth 2140* (TopWare Interactive 1997), *KKND: Krush Kill 'N Destroy* (Beam Software 1997), *Outpost 2: Divided Destiny* (Dynamix 1997), and *WarBreeds* (Red Orb Entertainment 1998). *StarCraft* could not be compared to these games if things went as originally planned.

On the CD box of *Warcraft II: Beyond the Dark Portal* (Blizzard Entertainment 1996), *Warcraft II*'s expansion set, *StarCraft* is announced as "coming in 1996"—the very same year—along with *Diablo* (Blizzard Entertainment and Blizzard North 1996) and *Pax Imperia* 2.[2] Blizzard's original goal was to release an RTS game almost every year; instead, *StarCraft* was released in March 1998, two and a half years after *Warcraft II*, and *Warcraft III* would not be released before 2002. According to game programmer Patrick Wyatt, the "crunch time" of *StarCraft* lasted over a year (2012c), which is about the time between the two first *Warcraft* releases. Something prompted the company to release their game "when it is ready," which would be an unofficial Blizzard's motto over the years.

2. *Diablo* would be released in 1996, and *Pax Imperia 2* would eventually be released by another third-party company under the name *Pax Imperia: Eminent Domain* (Heliotrope Studios 1997).

One of the reasons was the parallel development of *Diablo*, which took more time than expected. This delay was sufficient to change the horizon of expectations towards RTS games. They were already mainstream, and a higher level of quality or originality was expected. Wyatt recalls an interview with Johnny L. Wilson of *Computer Gaming World* where he could not explain why *StarCraft* would be different from the swarm of RTS that were released during their production time (Craddock 2019, ch. 7). While Westwood Studios would adopt the strategy of reiterating and refining their own formulae throughout numerous releases, Blizzard embraced an opposite strategy: producing fewer but more distinct games.

StarCraft bears this very paradox at its core: how could a game reiterating the core elements of RTS become the essential transition between the decoding and foreseeing paradigms? In most multiplayer games before 1998, the foreseeing aspect was more about positioning than it was about strategies and counterstrategies. To some extent, *StarCraft* is an *intensification* of the RTS tropes. It is not an original take in terms of narration: the universe is based on science fiction commonplaces sometimes clearly borrowed (or almost plagiarized) from other universes. It is also conservative in terms of representation: it maintained or used worst sexist and ethnocentric tropes perpetuated by the sci-fi universes it took inspiration from. In terms of graphics, it continued the two-dimensional tradition of its predecessors while other titles chose the 3D path. Even in terms of control, it intensified the need for micromanagement that earlier titles had no choice to keep. This intensification of RTS gaming appeared to be focused on the establishment of a foreseeing gameplay which had never been that clearly assumed.

A Narrative Through Campaigns

In most RTS games of the 1990s, narrative context is conveyed through blocks of text. For instance, *War Wind* (DreamForge Intertainment 1996) tells the story of four monstrous races fighting for the dominance of their planet, and the context of each skirmish is explained textually before the battle. In *Warcraft II*, each mission is similarly contextualized through a text, but it is read by a distinctive voice-over.

Westwood's *Command & Conquer* series departs from this convention. The game uses full-motion video (FMV) where game characters set the stage for each mission in the campaign. As in *Dune II*, the characters would directly address the player as a new commander that ought to prove their worth. *StarCraft* would adopt a similar narrative device,

although without the inclusion of FMV. The player is also addressed as a character in the campaigns: the Terran is a Commander, the Zerg is a Cerebrate, and the Protoss is an Executor. Most of the game images are *ocularized* as the game character's vision[3]: the interface mimics a control room where the character could give orders to their troops as if they perceived them through a screen, not so different from how a player is using their mouse and keyboard to play. Of course, whether these images are subjective to one character or not does not matter much in terms of game experience: other iterations of the RTS genre use a similar interface even if there is no narrative tied to it. Still, narratively, each faction embeds a unity through a more or less abstract concept: a certain *esprit de corps* for Terran factions, a hive mind for Zergs, and a psionic link known as the Khala for Protoss.

Mission briefings in *StarCraft* are delivered through dialogs between game characters. Four screens in front of the "commander" show the faces of characters that interact with each other and address the player as one of their own (Fig. 11). But game characters can also interact with the player during gameplay sequences, through voice acting and close-ups on faces on the interface, as if the communication was transmitted directly from the battlefield (Fig. 12). In most cases, these characters are game units, called "heroes." These heroes are also present in other RTS. Blizzard used them in *Beyond the Dark Portal*: they already had their own voice and face and had stronger traits than typical units. In *StarCraft*, some heroes even have their own unique sprite. They have a narrative role to play in the story, and do not exist in melee custom maps, neither in solo nor in multiplayer. In some cases, hero units are moved for narrative rather than gameplay purposes. For example, in the mission "The Dark Templar," Tassadar calls Kerrigan to a duel in the middle on the map, only to reveal himself as an illusion to show how her naïveté would lead to the fall of her species. Moving the unit is not relevant in terms of gameplay or strategy; it has a narrative role. The company clearly focused more on the narrative in this game than in their previous titles: while earlier Blizzard games had "short and vague" cinematics, *StarCraft* was their first to have its own cinematics team (Craddock 2019, ch. 6).

3. François Jost uses the concept of *ocularization* to designate the attribution of a filmic image to a character (Gaudreault and Jost 1990, 130). For him, the gaze of an image can be intradiegetic (internal ocularization) or not (zero ocularization) and, in the former case, can be identified by formal elements (primary internal ocularization) or by the context (secondary internal ocularization).

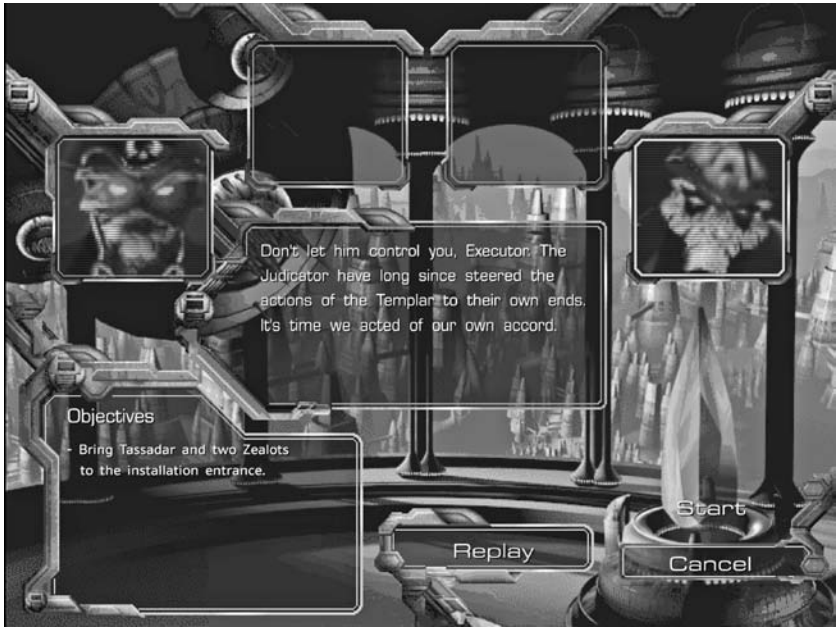

Fig. 11. Tassadar warns the Executor (player character) that Aldaris tries to control them

Fig. 12. Sarah Kerrigan's sprite on the field (top right quarter), her face on the bottom screen and (optionally) her dialogs are subtitled

The campaigns themselves have an original storytelling strategy compared to similar RTS games. In *Age of Empires* (Ensemble Studios 1997), each campaign is completely independent from the others: the Egyptian campaign tells the story of how Ancient Egypt came to be, while the Greek campaign depicts the history of Greece from the foundation of Athens to the conquests of Alexander the Great. There are no narrative ties from one campaign to the other. *Warcraft II* offers two different campaigns, the Orc and the Human, and their narratives are parallel: each map from the Orc campaign echoes another one in the Human campaign and is inferred to occur simultaneously or "instead of" the other one in the grand narrative of the universe. *Command & Conquer* uses a similar narrative strategy with its two factions.

On the other hand, *StarCraft* campaigns are chronologically ordered in terms of narration and linear in terms of gameplay. The narrative consists of six single-player campaigns—three in the original game and three added with the expansion. Each campaign is an episode of the greater storyline and follows a specific faction. The story begins when the Zerg swarm overruns a Terran colony, Chau Sara, and slowly begins to invade nearby planets. To stop the Zerg proliferation in the sector, the Protoss exterminate all life on infested Terran planets. In the Terran campaign, the player character is a Magistrate from the Confederation who supervises the evacuation of colonies threatened by the Zergs. They will follow the Marshal of a colony, Jim Raynor, as he joins a rebellion ignited by the Sons of Korhal. Led by Arcturus Mengsk, the Sons of Korhal are the only organization that seems to care for local populations, even though they are branded as a terrorist group. The goal of the rebellion is to profit from the crisis caused by the alien menace so that they can overthrow the Confederacy seen as oppressors in the colonies. Raynor will have a crush on a fellow rebel, Lieutenant Sarah Kerrigan, member of an elite psychic soldier force known as the "Ghosts." However, a risky tactic deployed by Mengsk to secure his superiority over the Confederacy will make Kerrigan fall in combat, thus leading Raynor and his troops to exile themselves and rebel against Mengsk's new order: the Terran Dominion.

In the Zerg campaign, the player character is a newborn Cerebrate who will lead a brood to protect a chrysalis for the Overmind. This egg contains the metamorphosis of Sarah Kerrigan as a Zerg. The ultimate goal of the Overmind is to assimilate other species into their own. The war they fight against the Protoss will be more complex since the force emanating from their Dark Templars destroys the Cerebrates' spirits,

which they thought to be eternal. The Overmind will discover that an older species called the Xel'Nagas created both Zergs and Protoss before their offspring annihilated them.

Attacked by the Zergs on their homeworld Aiur, the Protoss also deal with internal political problems. Their tribal societies are strongly divided into castes and overarched by a Conclave ruling a rigid bureaucratic religious structure. The Dark Templars have long been banned for their refusal to embrace the Khala, the official religion. During the war against the Zergs, Executor Tassadar has decided to side with the Dark Templars, led by Zeratul, and has been exiled for this very reason. As Tassadar's successor, the player character will also join his rebellion alongside their friend Fenix against the Conclave represented by Aldaris. The organization will eventually listen to reason and support Tassadar and the Dark Templars. In the final battle, Protoss and Terran will join forces against the Overmind, which will be ultimately destroyed after Tassadar sacrifices himself by ramming his vessel against it.

The story continues in the expansion *Brood War*. With the Overmind destroyed, the Zergs are mindlessly wrecking Aiur. The Protoss, led by a new character called Artanis, flee to Shakuras, a planet in constant twilight where the Dark Templars live under their Matriarch Raszagal. The remaining Zergs will begin to invade it. Freed from the Overmind's control, Kerrigan will seek an alliance with the Protoss against the Cerebrates who seek to grow a new central brain. This alliance with her will lead to the betrayal and death of Aldaris, suspicious of Kerrigan's motives.

While the Terrans in the sector are under the yoke of the Dominion, a new force coming straight from Earth has the mission to overthrow its reign. This United Earth Department (UED) led by Admiral Du Galle and Vice-Admiral Stukov will find a strange ally in Samir Duran, a Ghost leading a small rebel faction against the Dominion. They will destabilize the Dominion's monopoly on the sector and succeed in controlling the new Overmind while it is still growing to use it to their own ends. Duran, apparently infested by Zergs, will betray the UED to join the ranks of Kerrigan.

Kerrigan will then bring forward a new partnership with the Protoss and Raynor, while also offering to help Mengsk to reconquer his Terran territories against the UED and their new Overmind. She will then manage to isolate and betray her allies one by one. She reveals that she controlled Raszagal to manipulate Zeratul. Samir Duran will mysteriously disappear from Kerrigan's small council. In a secret scenario during the Zerg campaign in which the player plays as the Protoss, Zeratul will

discover Samir Duran on a far distant planet. He claims that he is an immortal creature operating under the orders of a stronger force with a project similar to the Overmind's: creating a hybrid between Zerg and Protoss. The final battle will pit Kerrigan's swarm against a strange coalition composed of the Terran Dominion, the UED, and Artanis' Protoss.

With these internal and interspecies conflicts, the stage is set so that every possible combination of skirmishes between factions is narratively possible. In some cases, it looks forced: strange skirmishes between Terrans and Protoss occur in the first campaign, when Mengsk interferes with the Protoss' military campaign against the Zerg. Even if Zerg forces are usually under the sole control of the Overmind, a Cerebrate's death is used to explain an internal confrontation.

Conservatism in Representation

Jessica Langer (2011, 45) argues that even though science fiction is not imperialist per se, the genre will intentionally or not borrow imperialist tropes. Soraya Murray (2021, 40) states that "*all* games engage in politics of identity," even when reiterating hegemonic worldviews. The science fiction universe of *StarCraft* clearly references other franchises and unfortunately reproduces their common stereotypes. Robert A. Heinlein's *Starship Troopers* (1959)—and probably more so its filmic adaptation by Paul Verhoeven (1997)—is clearly a strong inspiration: the humans are organized in the "Terran" Federation, which have "psychics" in their ranks, and fight alien bugs that are controlled by strong psychic abilities. While the book has often been criticized for its militaristic and even fascist worldview, Verhoeven's movie has a clearer satirical and political undertone that *StarCraft* did not explicitly retain. Furthermore, while an equality between genders and a pluralistic society in terms of races is portrayed in the film, *StarCraft* depicts a far from progressive universe.

StarCraft is not an exception to the overrepresentation of white heterosexual cisgender men in video games, as studies systematically corroborate.[4] Video games have been historically directed towards a masculine audience (N. Taylor and Voorhees 2018, 3). As Allen Adham, one of

4. According to Dmitri Williams et al. (2009), only 15% of video games characters in 150 of the most-sold games between March 2005 and February 2006 are feminine. Downs and Smith (2010) give an estimate of 14% for 60 games selected using a similar methodology for 2003. Representation of women is far from representative of actual demography (Mejia and LeSavoy 2018).

Blizzard's founders, underlined in 2001, the company is "staffed only by gamers, and managed at all levels by gamers … [and that all their] strategic decisions [are made] through the eyes of gamers" (Blevins 2001). Although in this context, the expression "gamer" was meant as an opposition to strictly businesspersons, and it did not have the same connotation it bears today since #GamerGate, popular depictions of gamers (and Blizzard's staff) were mostly white and masculine, and "game culture" is often perceived as such (A. Shaw 2014, 6). This could partly explain why sexist and ethnocentric tropes common in video games were reiterated in *StarCraft*.[5]

StarCraft builds strongly on anthropomorphization to depict its story, even if extraterrestrial species are involved. The insectoid Zergs and the almost faceless Protoss are "talking" although they should communicate by telepathy; Kerrigan as a Zerg character also adds a human aspect to an insectoid being (Brooks et al. 2018, 12). Numerous cut-scenes show the perspective of Terran characters rather than aliens one: "The Amerigo" in the Zerg campaign and "The Ambush" in the Protoss campaign. Strong characters have archetypal human fallibilities: Raynor will regret abandoning Kerrigan, while she will make crucial mistakes out of pride when challenged by Tassadar. The Protoss Conclave will fall following their irrational faith in their order. The game conveys a discourse on humankind.

In the original game, almost every human is white—with the sole exception of the worker unit, who is black—and "draws on a variety of American accents to create several different types of characters" (Adams 2014, 204). The Terran colonies were initially "penal colonies" and the Koprulu sector where the action takes place is explicitly called "New World" in the game manual (p. 30). Still, there is not a single mention of any indigenous people: each planet is a *Terra nullius* that Terran, Zergs, and Protoss claim. The fact that Terran Confederates bear a flag almost identical as the American Confederate flag is never addressed. Colonization is a "setting" rather than a theme, stripped of any political complexity or consequences.

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5. Activision Blizzard, the company that owns Blizzard since its mother company Vivendi Games merged with Activision in 2008, is "being sued by the California Department of Fair Employment and Housing over a 'frat boy' workplace culture that it alleges has led to years of harassment and abuse targeting the women in its workforce" (Plunkett 2021). One could argue convincingly that being made "by and for gamers" is not a very inclusive position even beyond more recent GamerGate connotations.

Every unit is represented as a "type" and retains the same visual sprite; this sprite is almost exclusively masculine when gendered. Only one unit is a woman, one of the few units which is completely non-lethal: the Dropship. Moreover, the android that is an adjutant for Terran commanders bears the traits of a woman. The expansion set adds the only POC character, Samir Duran, a traitor, and the most mysterious character, with only a weak explanation for his tortuous quest. The expansion also adds two feminine units: the Medic and the Valkyrie. While the former quite directly corresponds to the stereotype that women naturally inherit the "support" role (and are non-lethal), the latter is very rarely used in progaming due at least in part to a bug only fixed in 2018 where its missiles would not be launched if too many sprites were already on the map (TeamLiquid 2023a). Although Zerg "Queen" units or "Hatchery" buildings suggests that they have sexual reproduction, both Zerg and Protoss characters are not gendered in the original game manual, while Terrans are identified as "male" or "female" (pp. 91–93). The sole exception is the Matriarch in the expansion manual, who is identified as a "Female Protoss" (as opposed to "Protoss," without any gender/sex reference). In the original game, every character, except Kerrigan, has a deep voice and uses "he/him/his" as pronouns.[6]

The central role Kerrigan plays in the narrative is still strongly stereotyped as a feminine figure. She is the only feminine hero of the original game and becomes the main antagonist. According to lead designer Chris Metzen, Raynor was created as a central and playable game unit to have someone to "care about," while Kerrigan was introduced in the Terran campaign because it was "boring to hear him talk to himself" (Brooks et al. 2018, 12). During the Terran campaign, she is second-in-command in the *Sons* of Korhal (and not the *Children* of Korhal). Yet, she is the only character with supernatural powers. Arcturus Mengsk rescued her from a Confederate facility, where she was under experiments to understand her psychic gift. When she is meant to lead a mission to protect the Zergs against a Protoss invasion, Raynor protests that she should not do it alone. She claims against Raynor's wish that she has her own agency and that he should not follow the "knight in shining armor routine." It is after this

6. When Kerrigan is reborn as a Zerg, she refers to the Overmind as her "father" (Zerg campaign, mission 4: "Agent of the Swarm"). When she discusses with Daggoth about Zasz's death in "The Culling" (mission 7), Zasz and the Overmind are referred as "he/him." In the same mission, she refers to Tassadar as "him," and Tassadar himself identifies Aldaris as "him" in "Choosing Sides" (see Fig. 11, p. 28).

exchange that the Zergs will abduct and infest her—as if she was being punished for not respecting the patriarchal order—morphing her into a unique hero with psionic abilities. She is the only "hero" character of the game that has no normal unit equivalent.[7]

To follow Sandra Gilbert and Susan Gubar, male authors have historically relegated women in extreme and extremely constrained literary figures: the "angel" (and the derived "fairy," or "sprite") and the "monster" (or "ghost," "witch," or "fiend") (2000, 17). Kerrigan starts as a "ghostly" figure (she is literally a "Ghost" unit) that will be morphed into a monster as soon as she claims a certain agency on her life. Zergs themselves embody "a style of representing alien creatures that different scholars have theorized as a figure for the feminine, the abject or the primitive" (Voorhees 2008, 109). Kerrigan echoes Lilith's medieval legend. Lilith was the name of Adam's first wife, who considered herself his equal, refused to submit to him, "became enraged and, speaking the Ineffable Name, flew away to the edge of the Red Sea to reside with demons" (Gilbert and Gubar 2000, 35). She became a symbol of motherhood and is associated with feminine abjection, including the motherhood of a "brood" and the cannibalism relationship she has with her offspring—Kerrigan's "Consume" skill gives her energy if she sacrifices a friendly unit:

> [S]ince all the creations of each monstrous mother are her excretions, and since all her excretions are both her food and her weaponry, each mother forms with her brood a self-enclosed system, cannibalistic and solipsistic: the creativity of the world made flesh is annihilating.
>
> (Gilbert and Gubar 2000, 33)

Her endeavors in *StarCraft II* will eventually elevate her to an "angelic" figure in the concluding campaign of *Legacy of the Void*. This transformation will enable the triumph over the Hybrids.[8]

---

7. To be exact, the Dark Templars were hero units in the original game (and, as such, have no equivalent as regular units), but they were added to the regular roster in the expansion set.

8. Without going into too many details regarding *StarCraft II*, the main women characters who were added in *Wings of Liberty* are no different. One is Dr Ariel Hanson, a scientist who asks for Raynor's help (and, in one of the timelines, can become infected with a virus that morphs her into an anomaly). The other is Nova, a ghost character originally created for the cancelled game *StarCraft: Ghost* and is very similar to Kerrigan before her infestation. It seems that every woman in the Koprulu sector is "unnatural": either a psychic or a monster.

Brood War added a feminine character and a new feminine dimension. Although Protoss were not clearly gendered in the original game, the Raszagal character and the Matriarchal order of the Dark Templars in the expansion set show that Blizzard wanted to add a feminine representation in the game. Yet, we will learn that Kerrigan mind-controlled the Matriarch the whole time, thus releasing her of any narrative agency. Women and matriarchal societies are either banished, considered an anomaly and monstrosity, pupetereed by another character, or are inoffensive or useless.

StarCraft is thus not very different from most computer games of its period in terms of representation of women and minorities. It is clear that, as Alyssa Arbuckle and her colleagues argued, "militarism is often depicted as inextricably masculine" (2019, 5), and that there is an "assumed white masculine norm in gaming" (Gray 2020, 3) that fails to depict a larger diversity even in the context of science fiction, where imagination should know no limit.

"I know it's not 3D"

The conservatism in terms of fictional tropes echoes a certain conservatism in terms of visual aesthetics. As Artanis would state in a metaaddress to the game player when they repeatedly click on him, "I know it's not 3D." *Edge Magazine* (1998) underlines how *StarCraft* ignores the "advances" of *Age of Empires* and *Total Annihilation* to pursue its own agenda and "teach the pretenders a thing or two." This "lack" of innovation is clearly tied to the decision to delay the release of the game, as stated earlier.

StarCraft's direct predecessor, *Warcraft II: Tides of Darkness*, was released at the end of November 1995. The game is nowhere near the "darkness" it announces: Walker (2002b, 1) notes that the clarity and beauty of its graphics, in super-VGA mode at a 640x480 resolution, contrasts with other games. It was indeed a technical feat (Craddock 2013, "Bonus Round 2"). *Warcraft* itself was inspired by the *Warhammer* universe, to say the least (McCrea 2009, 188). Before they decided to create their own universe, Blizzard originally intended to obtain a license for *Warhammer* (Wyatt 2012a). Even though they never acquired the rights, *StarCraft*'s creators took inspiration from *Warhammer 40,000* (Priestley 1987), the miniature wargame franchise. In fact, the early versions of the game were mockingly dubbed "orcs in space" (Wyatt 2012d) because of their similarity with *Warcraft II* (Fig. 13). It was not necessarily surprising:

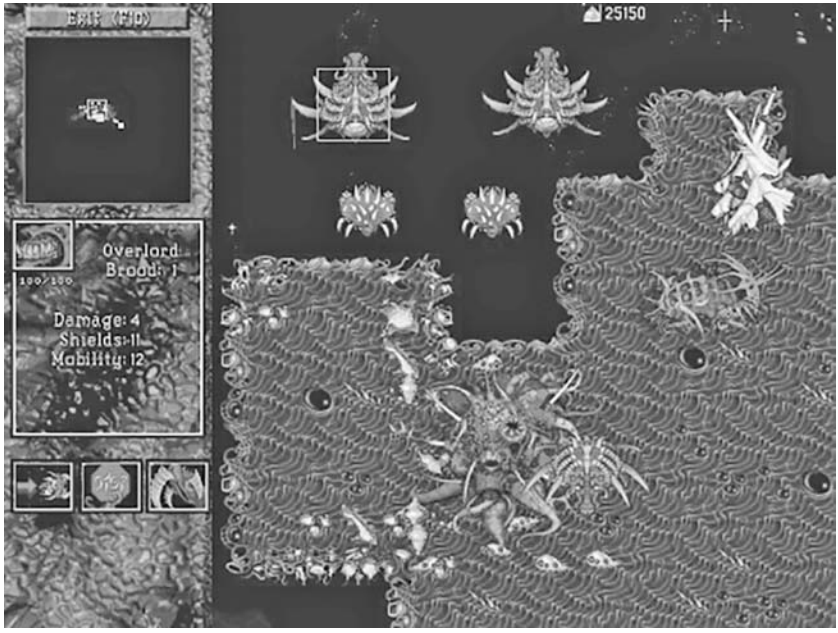

Fig. 13. The "Orcs in Space" version of *StarCraft* showcased at E3 1996
From Wyatt 2012d.

Warcraft was meant to be a series of war games in different settings, the first one being subheaded "Orcs & Humans" (Wyatt 2012b). The very idea of short-distanced releases was common in the 1990s: *Warcraft* was released by the end of 1994; *Warcraft II* by the end of 1995. It would thus be logical that *StarCraft* was set to be released by the end of 1996 but ended up being released two-and-a-half years later. The release of *Diablo*, as stated earlier, was not the only reason the game had such a delay.

Six months after the release of *Warcraft II*, Blizzard showcased the upcoming *StarCraft* at E3 1996. Blizzard's booth was next to Ion Storm's, which showed a demo of *Dominion: Storm Over Gift 3* (7th Level and Ion Storm 1998) that clearly outshone the alpha version of *StarCraft*:

> While we didn't have the opportunity to play Dominion Storm because it was a hands-off affair, it didn't seem necessary. The Ion Storm staff members who demonstrated the game had a remarkable event that showed great-looking game units, including a signature unit that moved like the AT-AT walkers first seen in "The Empire Strikes Back" during the Battle of Hoth. With other impressive units of all sizes and forms,

> electric fences that could be chained together to create impenetrable barriers, and isometric-perspective artwork that showed the game units from a more compelling angle than did our nearly top-down perspective, Ion Storm's game was kicking our ass in every regard.
>
> (Wyatt 2012d)

Wyatt later learnt that the *Dominion* demo was a fake: the game was a prerendered video and the players were pretending to play.

Still, the demo convinced the team to depart from *Warcraft II*'s visual aesthetics and UI and to completely change the art direction. They clearly wanted to avoid direct comparisons with its predecessor (Dulin 1996). From an original top-down prototype set to be quickly released after *Warcraft II*, the project switched to an isometric view. Yet, the engine behind the game still used squared tiles (Wyatt 2012c). *StarCraft* retained two-dimensional graphics even though other RTS games had already begun using 3D.

One of these RTS games is *Total Annihilation*, to which *StarCraft* is widely compared in 1998 although it is now mostly forgotten outside of RTS communities. Using 3D graphics and a huge number of game units, *Total Annihilation* is seen as innovative, while *StarCraft* appears like a more conservative take on the genre. *Total Annihilation* is a skirmish between two robot factions with various characteristics. Positioning, including on the *z*-axis, is often crucial. It uses "real physics" (Colin 1998) in the sense that mortars take into account the heights of each unit. The visual aspect and iconography are similar to *Herzog Zwei* (see Fig. 9): two types of resources are represented by gauges in the upper line of the screen. *Total Annihilation* was praised for the multiplicity of available units, which were often difficult to differentiate. Players could even download new units online ("Cavedog Entertainment Presents… *Total Annihilation*" 1998, 8).

Even though the fictional setting of *StarCraft* takes place in outer space, the game is two-dimensional. Artists drew game sprites pixel by pixel using a 3D guideline (Andreadis 2018). A higher ground will block vision but will not change anything in terms of range. As such, the visual is an axonometric projection of the game space, while the game engine itself works as a top-down projection.[9] Flying units cannot change their altitude; they are flying on a single "layer" different from the ground (Adams 2014, 140).[10]

9. The top-down projection is very similar to *Warcraft II* but with greater precision in tiles, as game programmer Patrick Wyatt describes on his blog (2013).

10. A glitch in the engine let Mutalisks "stack" in the same space, which was especially important for professional players to maximize their Mutalisks' attacks.

Therefore, it is impossible for them to fly to an altitude beyond the range of a missile turret or even of a Marine's rifle.

In terms of visual style, rather than following a strict photorealism, the game is closer to a certain form of "caricaturism" since aliens' and humans' features are more exaggerated than "life-like" (Egenfeldt-Nielsen, Smith, and Tosca 2008, 123). In a retrospective interview with *IGN*, Art Director Sam Didier underlines some of the inspiration for the universe and confirms that science fiction from the 1960s to the 1980s was strong source material. Rather than classical noble or scientific humans, they designed the Terrans as "outlaw cowboys" (Holt 2018). As stated earlier, the Zergs were clearly inspired by the Arachnids from *Starship Troopers*—quite explicitly paying homage to its filmic adaptation in some sequences (see "UED Victory Report" cinematics)—the creature from *Alien* (Scott 1979), the Brood race from *Uncanny X-Men* (Shooter 1982), and the Formics from *Ender's Game* (Card 1985). The tribal Protoss were similar to the *Predator* (McTiernan 1987), while retaining some typical aspects of the classical "gray aliens" with huge brains (Holt 2018).

Contrarily to other RTS franchises, *StarCraft* did not spawn many clones even to this day.[11] One of the reasons is probably because a 2D aesthetics was already something outdated. But, moreover, the visual design of each faction is so distinctive that any clone would be obvious. Direct copies of the game do, however, exist and a lot of them happen to be Korean games. A Korean company called Joymax developed two of them. *Final Odyssey* (Joymax 1999) offers similar aesthetics and relies on a science fiction setting, although the narrative of the game is a fight between two cyborgs factions created by humans on the border of extinction. *Atrox* (Joymax 2001) has three factions very similar to those found in *StarCraft* and the visual aspect of the game is almost identical (Fig. 14).[12] The same is true of *Impact of Power* (Big Brain 2001). More

11. As an example, *Age of Empires* has clearly inspired a lot of games: *Empire Earth* (Stainless Steel Studios 2001), *Praetorians* (Pyro Studios 2003), *Rise of Nations* (Big Huge Games 2003), and the more recent *Northgard* (Shiro Games 2017) to only name a few. The *Command & Conquer* series was clearly the core inspiration for games like *Dark Reign*, *Act of War: Direct Action* (Eugen Systems 2005), *World in Conflict* (Massive Entertainment AB 2007), and, to some extent, *Company of Heroes* (Relic Entertainment 2006).

12. I included a screenshot of *Atrox* since I managed to get a working version of the game, which was not the case for *Final Odyssey* and *Impact of Power*. Screenshots of them can be found online, and the resemblance is also striking.

Fig. 14. *Atrox*, a rare case of a game inspired visually by *StarCraft*

recent similar games include *Priority: Survive* (Distortum 2008), the mobile game *Starfront: Collision* (Gameloft 2011), a quasi-plagiarization of the game, although it cannot be found anymore in iOS and Android online stores. *SpaceCraft RTS* (Voxel Fun 2019) and *Star Discord* (Illogical Games 2022) are more recent examples. These are still exceptions, as most RTS games are far from being *StarCraft* clones.

As we will see in the next chapter, having three different races will be praised by players and reviewers alike for game balance purposes. The differences between each faction are also strongly emphasized by their visual style. Terran characters are depicted in a dark gray palette, Zergs are dark brown and violet, while Protoss are yellow and light blue. Moreover, each game unit has a very different sprite; mechanical units, space vessels, and monstrous creatures can obviously be conceptualized to be visually distinct.

The number of units is relatively low for each faction, especially compared to *Total Annihilation* (Olafson 2000). These different sprites and color palettes make the distinction between them clear and precise. It is more efficient in terms of foreseeing: a Hydralisk is so different than a Zergling that it makes inferred states easier to conceptualize. Similar factions of humans in *Age of Empires*, of soldiers and military vehicules in *Command & Conquer*, or of giant robots in *Dark Reign* and *Total*

Annihilation are harder to distinguish. Signalling different gameplay functions by distinctive visual cues is one of *StarCraft*'s strong features. It is, of course, easier in terms of foreseeing: identifying quickly which units are on the battlefield and what it means in terms of future game possibilities is crucial. This usability in terms of game units is also present in the interface design and control in general.

Real-Time, Control & Interface

RTS games are probably the clearest examples of games where, as Kristine Jørgensen puts it, the game world itself *is* an interface (2013, 4). If gameplay clearly represents warfare and resource extraction, it is a highly abstract case of warfare where units are teleported on a battlefield and where resources freshly extracted are ready for military production. If the expression "real-time" was originally coined to describe the realism of RTS games,[13] time tells another story, for today it obviously refers to gameplay rather than to fiction. Marie-Laure Ryan argues that in games with an external perspective, there tends to be a larger gap between *game* time and *fictional* time (2006, 119). For instance, a single click can "train" military units after a short period of waiting time. Yet, it is impossible to "convert" game time to fictional time since most actions in the game do not refer to fictional actions. There is no "gap" to fill, there is only a different way to represent actions.

The basic controls in the game are the same as in most RTS games (Olafson 2000). For interface design, "the main considerations in the RTS genre are clarity, control, and ease of understanding" (Jørgensen 2013, 47). New functionalities in the interface accelerate gameplay. To facilitate camera navigation, an audio notification and a visual ping on the minimap will indicate that a special event is taking place: units are under attack, a technology is completed, etc. Pressing the spacebar will move the screen to the location related to the alert. Players can select multiple units at a time by dragging a box around them—without having to maintain the CTRL key pressed as in *Warcraft*. Controls are adapted for quick play.

In terms of control, Blizzard's games followed the right-clicking convention that became the norm of the genre (Saunders and Novak 2007,

13. One of the first apologists of the "real-time" tendency is Chris Crawford, as early as 1981, in an editorial on wargaming in the first issue of *Computer Gaming World*, where he claims that real-time games are more realistic as they "involve decision-making under time pressure" (1981, 4).

121): a right-click can issue a contextual order (move if a click is on the ground, attack if its on an enemy building, repair if on a friendly damaged building, etc.). This convention had to be adapted to the Macintosh version, which used a one-button interface (Farkas 1999). On the contrary, Westwood games used the left button for selecting units and for contextual orders, while the right button deselect units (Craddock 2013, "Bonus Round 2"). *Command & Conquer: Generals* (Electronic Arts Los Angeles 2003) would rally to the RTS norm.

Each faction has their own control specificities. Terrans can lift off most of their buildings to fly slowly to another location if needed. Still, they are usually seen as a race with less mobility but with strong defense capabilities thanks to their Siege Tanks. At the opposite, most Zerg units are fast and more disposable, but they must install their organic buildings on a surface called "creep" that is generated by their Hatcheries. These hatcheries also spawn larvae to morph into most of their units as soon as they have a prerequisite building: they can thus switch their army composition quite easily. Protoss also have a limit in their building locations: first, they must build Pylons nearby to power them. Protoss units tend to be strong and costly, but have, for the most part, a higher degree of mobility than Terrans.

In terms of foreseeing, speed and micromanagement are two of *StarCraft*'s characteristics. Competitive *StarCraft* is one of the fastest video games and can require a tremendously high number of actions per minute (APM) compared to other games. Following the common lexicon in RTS games, an "action" is the smallest unit of control (e.g. a mouse click or a key pressed). Since the *Remastered* version, the game can display the player's APM during a match, something which previously required a third-party software. A high APM is a sign that a player can physically manage a greater number of things than a player with a lower APM. Progamers can play at a rate of 250–350 APM or more, which is around four or five actions per second. A casual player will rarely go beyond 30–60 APM. A high difference in APM between players' skill levels means that one can outplay their opponent by playing faster, whether it is by progressing faster in the tech tree or by maneuvering their units out of an apparently disadvantaging skirmish.

However, not every interaction within the game requires a direct action from the player. As in most strategy games, "the player's control is *indirect*" (Adams 2014, 185): units and buildings are *theirs*, as pieces in chess, and they follow their orders. Every unit or building provides sight and can influence the game state by attacking, gathering resources, spawning units, etc. The player only directly controls their cursor and the interface,

with the mouse and keyboard. These controls will affect *selected* building or units. As such, in any given moment, players see and/or control only a small part of their units and buildings. They can select up to 12 units or a single building at a time and issue them the same order. Players are the point of convergence of their units: they can access everything their units see and interact with the world where their units are located.

In addition to the player's actions, units also have their own autonomy. For instance, they will attack every enemy unit on sight and can even pursue them, unless being instructed otherwise (with the "Hold position" order). In fact, players can monitor different parts of the map to see what needs to be directly controlled and what can be left to the unit's will. If a player [1] clicks and drags a box to select 12 Zerglings, [2] presses "A" to attack, and [3] clicks on the minimap on the location of an opponent's newly built expansion, this represents only *three* actions from the player, but these 12 Zerglings could have a considerable impact in the game if they disrupt resource collection. Even buildings have their own autonomy: a Photon Cannon built near mineral lines will shoot automatically to defend against enemy units; it needs no further action to be efficient and can thus buy the player enough time to react (Alan Feng, reported in Sirlin 2009b).[14]

Units will, of course, react to orders given by the player: if the player orders a Dragoon to move to a specific point on the map, the pathfinding AI will choose a specific path to move to this point—but in some cases, and especially with Dragoons, pathfinding is suboptimal.[15] The player can overcome the unit's pathfinding by using waypoints (Saunders and Novak 2007, 119): if they maintain CTRL pressed while issuing orders, each of them will stack. The unit could thus move to point A, then attack to point B, then patrol to C, etc. General instructions (such as being "aggressive" or "defensive") have not been implemented contrarily to other RTS games. In the same vein, some reviewers criticized the choice of limiting unit selection to 12 units (Unland n.d.; Olafson 2000). This was explicitly a design choice; unlimited selection choice was first implemented but abandoned even in the first *Warcraft* (Wyatt 2012a), and it was added in *Command & Conquer*. Arguably, unit selection limit called

14. Alan Feng gave a university course in the DeCal program at University of California Berkeley using *StarCraft* to reflect on game theory and mathematics. David Sirlin followed the course and reported each session on his blog.

15. Some game reviewers were perticularly frustrated by this lack of efficient pathfinding (Colin 1998). Patrick Wyatt links this problem to the top-down game engine mimicking an isometric perspective and cited the Dragoon since it is the largest ground unit of the game.

for more individual actions for players to manage. Each action from a player is either micromanagement or macromanagement (shortened micro and macro) following their scale or range of influence. They are two different aspects of the game to be managed simultaneously.

Following the TeamLiquid community, macromanagement refers to actions involving game economy and upgrades (TeamLiquid 2012): clicking on a production building, upgrading, creating workers and expansions, etc. To have a good macro, players must always make sure that their buildings are still reinforcing their troops, that they have enough buildings to spend their resources and produce enough units, that they optimize the worker count and the number of bases to collect enough resources, that they progress in the tech tree, etc.

Micromanagement refers to actions involving direct unit control (TeamLiquid 2012; Adhikari et al. 2018): unit positioning, specific maneuvers, using special abilities at the right spot and time, etc. Micro was one of the defining characteristics of *StarCraft* at the time of its release (Dulin 1998; Gamespot Staff 2000). The main rule for micro is to keep as many units alive as possible (TeamLiquid 2012). A Protoss player could alternate between attacking and moving so that Dragoons can shoot while retreating (Day9TV 2017). One can aim for a specific target to incapacitate a unit early in a fight.

Micro also refers to engaging in combat; for example, trying to flank an opponent's army or to control an army so that a long line of attack engages one enemy unit at a time. In *Age of Empires II: The Age of Kings* (Ensemble Studios 1999), units will organize themselves following specific military formations through a single click (squared, turtle, etc.). In *StarCraft*, some units have special abilities that necessitate a certain micro (Gamespot Staff 2000). For instance, to launch a Psionic Storm, the player must click on one High Templar, click on "Psionic Storm" (or the "T" hotkey) and click on a target zone. The High Templar will move to be in range if needed and then launch the storm.

An economic or technological advantage (macro) will usually ensure victory in the long term, but unit control (micro) is a crucial factor in the outcome of a battle and is essential for most special abilities. Players will often try to optimize both aspects according to their sensori-motor skills. This alternance between micro and macro is called "multitasking." Most players will try to favor macro, since it gives a significant advantage in a long-term game (TeamLiquid 2012). Combining actions, whether they are macro or micro, needs both

sensori-motor and cognitive skills. For example, producing an army is macromanagement and requires fast coordination skills, while knowing how to move your military units is a cognitive skill even if it is micro. In the same way, micro and macro should not be used interchangeably with strategy and tactics; strategy implies both (see Dor 2018). RTS games are not strategic games *despite* their "real-time" component; they are strategic *through* an efficient usage of time.

RTS Games Are Not E-sports

While this focus on control is essential to understand how *StarCraft* could become a competitive game, most players clearly do not play fast enough to care—and this was probably truer than ever in 1998. The dexterity needed to optimize actions and to "overcome the built-in limitations of the interface" (Dulin 1998) is often seen as a negative aspect of the game, or reserved to "emeritus players" (Bohbot 1998, my translation). Mechanics and execution skills play a crucial role in *StarCraft* skirmishes, but not in every *StarCraft* experience.

Arguably, even Blizzard did not see speed as a necessity for the game to be enjoyed. *Populous* and *Dune II* were also launched on Sega Genesis consoles. It was not entirely a surprise that Blizzard would release a version of the game for the Nintendo 64 console: *StarCraft 64* (Blizzard Entertainment and Mass Media 2000). Of course, using a gamepad makes it impossible to select units rapidly and precisely. But in 2000, releasing an RTS game on console was probably seen as a reasonable way to reach a new market, even if it meant changing the original experience. For instance, foreseeing was less important since *StarCraft 64* would use a split screen to show both players' point of view in a two-versus-two game, as *Herzog Zwei* did before. A few other RTS games made their way to consoles, from *Command & Conquer* (Westwood Studios and Looking Glass Studios 1999) to a few games during the peak of *StarCraft* e-sport—*The Lord of the Rings: The Battle for Middle Earth II* (Electronic Arts Los Angeles 2006), *Universe at War: Earth Assault* (Petroglyph Games 2007), and even *Halo Wars* (Ensemble Studios Corporation 2009) which was exclusive to Xbox 360. RTS gameplay varied more widely than today's e-sports would lead one to assume.

What is meaningful in *StarCraft* is very different depending on each player or community. Competitive players would train their sensori-motor skills to execute their build orders and micromanagement maneuvres easily, so that it would not be in the way of their strategy, while other

players would appreciate building slowly a large fleet of ships to appreciate a casual confrontation with their friends. To some extent, players do not necessarily play the same game; while the game itself as an artifact has the same rules, cognitively, these players do not play by these rules. In these circumstances, it is not surprising that alternative home rules emerged, even in the context of online playing, such as one that became a classic expression: “no rush.”

CHAPTER 3

No Rush

> Sure, you may understand human tendencies, … but in the end, you never really know what a human will do.
>
> — BART FARKAS (1998A, 212)

Software is Not Everything

When I went back to *StarCraft* in 2008, I naturally wanted to play with those with whom I played ten years earlier. At that point in time, e-sports and competitive play were mostly unknown in my entourage, and I would quickly realize that I was no match for playing online, especially on the competitive third-party server iCCup. I asked a cousin if he wanted to play along. It had been a while since his last game, so, when ours was about to start, he casually asked me in the chat: "no rush for 20 minutes?"

A lot of the games created on Battle.net servers mentioned "no rush," "no rush 5 min," or different variations of these in their very titles. A "rush" is a strongly dedicated attack in the first minutes of the game to make sure the worker units of the defender are quickly shut down. A strong defense is necessary to counter a rush, usually by using buildings to block almost entirely a choke point, at the entrance of a base. I had a little time to catch up to contemporary strategies but agreed to the "no rush 20 minutes" rule, and I ended up expanding all around the map and defending choke points with Carriers and Photon Cannons, knowing I would not be bothered by any agression. It was not much fun for either of us.

This "no rush" rule seems counterintuitive in the e-sport era, but it meant something in 1998 in real-time strategy (RTS) games and had a certain traction. For instance, Sébastien Hock-Koon (2011, 105–6) reported the "no rush" rule as an example used by a *StarCraft* player he interviewed to rebalance the early game in his small group. The authors of *Understanding Video Games* use this example in *Age of Empires II: The Age of Kings* to illustrate how players negotiate rules even when the game does not enforce them by software means (Egenfeldt-Nielsen, Smith, and Tosca 2008, 156). *Rise of Nations* would embed this function in the very creation of a skirmish game, but it was still not very common. *StarCraft II: Wings of Liberty* would more subtlely integrate it in "novice versions" of ladder maps: destructible rocks would block the path to the opponent's bases until an army substantial enough could destroy them, thus limiting the time when a rush was possible. It was only supported for a short period of time (TeamLiquid 2021a).

The "no rush" rule is a singular example of how a video game is not only a software, but a cultural object. As Kishonna L. Gray underlines, there is an "assumption that there is just one way to engage with a technology" (2020, 4), as if the developers were the sole to set the rules that the players follow. Playing with the "no rush" rule is akin to following a certain "metagame," what Stephanie Boluk and Patrick LeMieux define as "the current strategies and changing trends in the culture surrounding competitive games" (2016, 318). The metagame has emerged as a concept in competitive gaming to illustrate changes or specificities in gameplay associated with certain locations or periods. It is strategic habits formed or culturally relevant to the point where they can be formally or informally associated with a specific community (Sirlin 2005, 104; Mauger 2011, 136).[1] A game poised only with rushes is not a culturally relevant game; the "no rush" rule meant that the game could be enjoyable for non-competitive communities. It is a case of what David Sirlin calls a "soft ban," where players agree upon not using certain abilities, features, characters, or strategies since they are "breaking" the game. The

1. Marcus Carter, Martin Gibbs and Mitchell Harrop use Liquipedia's wiki to underline three usages of "metagame" in the community: preparing towards current trends in strategy (akin to the definition I use here); preparing towards a specific opponent or a map; devising a strategy to try to exploit an opponent's state of mind (Carter, Gibbs, and Harrop 2012, 12). As they rightfully recall, metagame is not "outside" the game since developers consider it when they design their games. It is still the word used in most gaming communities so I will follow its usage.

example Sirlin gives is the character Akuma in *Super Street Fighter II Turbo* (Capcom 1994), which has a move so powerful that it is impossible to counter; choosing this character is a dominant strategy. While in North American tournaments Akuma was banned, in Japan it was not officially banned, but there was a tacit entente respected by professional players to not use it (Sirlin 2005, 31). The "no rush" rule is similar. Its prevalence shows that even though there would be a few trolls here and there not respecting the initial truce, it was still worth a try.

I played my first modem game of a strategy game in *Warcraft II* in 1998 with a school friend. As far as I can remember, it was my first foreseeing strategy game. I did not ask for such a "no rush" rule—I did not know of it—but bragged to my future opponent that I would win, only to be rushed by a dozen Orc grunts minutes later. It completely defied my expectations, to the point where I could not understand until I was more used to online play. What made the rush strategy so strong is that it needed a build order to anticipate its possibility and, if a rush was scouted, a proper response very quickly. This response would take some time to be incorporated as common knowledge.

Playing against the Zerg in the 1.0 version of *StarCraft* was especially annoying. Against a computer opponent of any race, the rush often seemed "the only viable means of emerging victorious" (Dulin 1998), but it was almost unfair to play against the insect-like opponent. Rush is clearly associated with Zerglings even in popular culture. The rush was the main example of a strategy for Salen and Zimmerman on their game design book (2004, 236), and was even acknowledged by generalist newspapers reviewing the game, at least in Quebec (Mondoux 1998, B8). Rushing eventually became less effective with the *Brood War* expansion and subsequent patches, especially with 1.08 version in 2001 which would raise the cost of the spawning pool to extend the time before Zerglings are ready to attack (McCrea 2009, 187). Greg Kasavin from *Gamespot* would disregard rushing as a viable strategy, except against a newcomer (Kasavin n.d.). The implementation of game patches was essential for balancing; yet implementing patches needs specific technological infrastructures that were far from widespread in 1998.

The goal of this chapter is to tell how RTS cultural and technological conventions that seems evident in e-sports today were very uncommon in RTS games in 1998. *StarCraft: Brood War* is dubbed by one reviewer as "the definitive real-time strat title" (Coffey 1999, 212), and in some sense it rallies everything that an RTS could be. Still, what makes *StarCraft* a landmark in the history of games was yet to be uncovered when the game

released. It is a game with a steep learning curve played at high levels of competition, yet a "great introduction to this genre" (Marceau n.d.), an easy-to-use game (Bohbot 1998, 30), and probably one of the most commonly played games in the history of the RTS. *StarCraft* players did not necessarily have the same goals, but a lot of player's personas are, as C. Thi Nguyen puts it, "motivationally coherent to one another" (2020, 20); they can coexist in the same gaming ecosystem. I will show how different playing habits slowly but surely mutated into gaming communities following what they saw as more important in the game, normalizing some styles of play and marginalizing others.

StarCraft would manage to be *StarCraft* because the technological infrastructure could support what it would become. Yet, in 1998, it was as much a decoding as a foreseeing game. We tend to remember games as what they would become, as a kind of *telos* through which they develop, but history does not unfold as a "purposeful development toward a clear goal" (Therrien 2012, 17). Thus, the foreseeing aspect of the game was not necessarily the sole core aspect in the game initially.

The first section will explain how claiming that the game is "balanced" does not make much sense outside of competitive gaming. I will then concentrate on the role of the Battle.net servers on this process of normalization, leaving Blizzard with a key position to secure a place on the multiplayer gaming scene. The last sections will underline how a culture could be shared through technological means, which needed a specific conjuncture to grow.

Balancing a Foreseeing Game

StarCraft is widely considered a leading example of a balanced asymmetrical RTS even shortly after it came out (Bohbot 1998; Fehrenbacher, n.d.; Shaw 1998). The unique characteristics of Terran, Zerg, and Protoss do not give them an advantage over the others. This balance is asymmetrical in the sense that each of the three races has a different set of units, buildings, technologies, and special abilities, as opposed to most RTS games of the time that had identical or very similar factions. There is no direct equivalence between races in terms of units or buildings, although some comparisons are possible.

While *Warcraft II* would add air and naval units to the *Warcraft* melee roster, *StarCraft* would end up removing naval units and focusing on land and air warfare. It seems like water units were initially supposed to be implemented in the game, at least according to a preview article from

Scott Udell in *Computer Games Strategy Plus* in August 1997 (Udell 1997). In fact, it is surprising to note how a lot of elements planned less than a year before the release did not make the final cut. Some gameplay elements more tied to the paradigm of decoding were put aside: heroes that pick up items to keep for future missions, salvaging wreckage for resources, changing moving rules for certain units in space maps, non-aligned agressive units, etc. (see Chin 1997; Udell 1997). These traces of the initial intentions link the game to other types of experience, more akin to decoding games rather than foreseeing games. Simplicity rather than complexity was chosen in the last months of design.

As explained in chapter 1, the expression "game balance" can refer to very different aspects of a game depending on if it is seen as a foreseeing or decoding game. Most game designers define balance as the idea that a game must be fair (Adams 2014, 404; Sirlin 2016, 169; Schreiber and Romero 2022, 9). It is not far from the description that Roger Caillois gives of *agôn*, that is, a skirmish "in which equality of chances is artificially created" ([1958] 2001, 14). Thus, in a competitive multiplayer game, game balance is very different than in single-player games (Adams 2014, 404). For Ernest Adams, a player-vs-player game is considered balanced if, at the beginning of the game, each player has a similar chance of winning and, during a game, neither player has an advantage or a disadvantage that cannot be overcome by the actions of one of the players, except (with moderation) when it comes to chance (2014, 412). For Adams, game balance is a concept applicable to both symmetrical and asymmetrical games—even though it is easier to obtain from a design perspective in the first case. Since *StarCraft* is an asymmetrical game and the choice of a faction takes place *before* a game starts, this choice should not be an issue that determines its outcome.

Balance as a game design imperative has its fair number of critics in game studies. A similar chance of winning is very abstract and can never be truly achieved since inequality exists in everyday life. As in any sport involving strategy, two players with different physical strengths, health statuses, or sensori-motor skills do not start on the same ground. Not everyone has the same access to computer material and a reliable online connection to play competitively, and that was especially true in the 1990s (Jenkins 2008, p. 23). They are not connected to the same networks of players to practice with, share thoughts on the game, and train towards a specific metagame. In his insightful book on the meritocratic myth in video game culture, Christopher A. Paul notes that South Korean players had support from their government to perform at e-sports (2018, 58). As

he rightfully notes, even within a system that encourage progaming, not every player is equal. Women, BIPOC, LGBTQ+, or people with disabilities, for example, will see themselves either as stereotypes—in games or in e-sports events, such as "booth babes" (N. Taylor et al. 2009, 243)—or not represented at all. Even though most *StarCraft* e-sport progamers are South Korean, Lily Zhu shows how "Asian" stereotypes and xenophobic discourses persist in the e-sport community (2018, 237). In a similar way, Javon Ke'Andre Goard, Stephanie Jones, Jaymon Ortega, and Kishonna L. Gray discuss the Black gamer identity in 2021 in the context of the resurfacing of a video showing NBA players playing *StarCraft* over LAN in a hotel room in 1999. They underline how showing black celebrities playing a LAN PC game breaks the myth of what a gamer looks like, underlining that the exclusion of gamers is not only material but also symbolic (Goard et al. 2021). If one needs to be reminded, privilege persists in gaming; the Internet is far from a "utopian space where all people and all groups have equal access to the production, dissemination, and consumption of information" (Gray 2020, 21). The ideal of a "balanced" game that would be based on skills and skills alone is a social construction that goes far beyond numbers, game choices, or unit statistics.

Moreover, Alexander R. Galloway argues that reducing balance to a mere comparison of numbers deprives a game of a more organically balanced state. He identifies the Zerg swarm as a key narrative figure that should theoretically echo an organic equilibrium as insects have, but shows how it does not translate in the gameplay (2007, 94). However, as Ian Schreiber and Brenda Romero remind us, game balance is a metaphor: numbers alone will not give you the insights you need to design according to a specific experience (2022, 5). It is a "feeling" from players more than an accurate measurement that can be properly calculated (2022, 9).

In their *Strategy Games* book, Dave Morris and Leo Hartas connect balance to a space for improvement (2004, 97). Most authors agree that the goal of balance is to avoid a dominant strategy: a strategy so strong that it would be foolish not to choose it. To some extent, a dominant strategy is a metagame so strong that everyone should follow it; it is a metagame that hinders the formation of other metagames. Dominant strategies are very difficult to prevent. In their review of *StarCraft*, Colin underlines that a dominant strategy will emerge eventually, but that the game can be enjoyable in the meantime (1998).

In fact, if it was not for patches, this prophecy would probably have been fulfilled. The number of patches needed to maintain what is

considered a balanced state is surprisingly low compared to today's standards in competitive video games—27 between 1998 and 2009, most of them being for usability or bug fixes, while *StarCraft II* had 157 from its release date in July 2010 to September 2019. Following Galloway's core argument, I would argue that trying to control game balance through sheer numbers and aggressive patching only shows how designers ultimately have little control over how their game is played. But the history of *StarCraft* shows how balance is never a fixed state and is tied to a specific metagame.

According to Adams, *StarCraft* is "the most well-balanced combination of asymmetric features in any war game available" (2014, 415). Balance often refers to the overall impression of a game, but is tied to the interdependencies between the pieces of the system (Schreiber and Romero 2022, 5). As such, Sirlin distinguishes "global" balance from "local" balance (2016, 170). On the global scale of a game balance is often an ideal, but on a local scale some sort of "imbalance" is necessary. This "local" imbalance could be best illustrated as intransitivity between strategies (Morris and Hartas 2004, 25). In the field of logic, a transitive relationship is "linear": if A is stronger than B, and B is stronger than C, then A is stronger than C. If I play a game of dice and roll an 8, it will always beat 7 or less. Most games, on the other hand, include some sort of intransivity, in which C can be stronger than A. In rock–paper–scissors, each choice beats one and loses to another one; it is the classical and an extreme example of a set of intransitive relationships. Ultimately, what makes rock–paper–scissors uninteresting is that players cannot foresee which choice their opponent will make.

On the overall dynamics of an asymmetrical game, some intransitivities will usually shift from one side to the other, depending on army size and positioning, economic decisions, or technologies that will give a "momentum to decide the game" (Ghys 2012). Alan Feng calls this the "pendulum of counters" (in Sirlin 2009c). In the beginning of a Terran versus Protoss game, Terran Marines in a bunker are favored against Protoss attacks. Bunkers give protection to Marines and can be repaired by SCVs. But as soon as the Protoss develop the Dragoon Range upgrade, Dragoons will outrange Terran Marines and get the upper hand in a direct fight. The range upgrade will become less useful when Terrans upgrade their Siege Tanks with Siege Mode, now significantly outranging Dragoons. The overall equilibrium of the game will shift from one player to the other depending on how efficiently one chooses strategies that can counter the opponent's strategy. In mirrored matchups—Zergs

against Zergs, for instance—the game shifts to a symmetrical one, and thus pendulums really depend on the timings of every decision. The examples above are of course very linear and illustrate one possible strategic path: in a real exchange, these shifts in power change following strategic plans on each side and are even more difficult to anticipate when more than two players are involved.

In *StarCraft*, balance can be calculated with win rates on specific maps and is not necessarily identical depending on the skill levels. Sirlin notes that it is in fact undesirable to have a perfect balance, since it would suppress "viable options" (2016, 169) and any depth of the game. It would imply that the game can be "solvable" (Schreiber and Romero 2022, 38), where there is one "best" response to any game state; that is, when a game is completely decoded. The goal of a game balance designer is thus to "minimize the unfairness while still offering the wealth of variety inherent in having multiple different sides to choose from" (Sirlin 2016, 172). In fact, this specific aspect was praised by some game reviewers: Dulin underlines how "no unit is ever rendered obsolete during the course of a game" (1998), while Fehrenbacher (n.d.) claims that, although it has fewer units than some RTS games, every unit is useful. Even though some units would be almost never used in e-sports, the main idea is clear: a smaller number of units means that it is easier to plan without having too much information to deal with.[2]

Schreiber and Romero note that numbers are one way to balance a game (2022, 14–5). Following Ernest Adams and Joris Dormans' terminology, "any concept that can be measured numerically" is a resource in a game economy (2012, 60). While players will usually refer only to mineral and vespene gas as resources, almost every element of a game can be qualified and explained as a resource. Mineral patches and vespene geysers are *tangible* resources since they have a specific location (2012, 60). However, when workers harvest them, they accumulate minerals and vespene gas, which are *intangible*—they can be used anywhere on the map without any specific location. These resources can be used to buy buildings and units, which are tangible and occupy a specific place, whether they are mobile or immobile. The number of workers assigned

2. It was in fact underlined by Dustin Browder, lead designer of *StarCraft II* and former designer in the *Command & Conquer* and *Battle for Middle-Earth* series, who changed his approach to RTS design when thinking of it in terms of e-sport (in Graft 2011).

to mineral patches and vespene gas will be crucial to the unfolding of a foreseeing game.

Contrary to other competitive games like fighting games, most strategy games are structured around positive feedback loops: as David Sirlin describes them, gaining an advantage mostly converts to a greater advantage on a long-term basis (2009a). For example, having more workers allows you to gather more minerals, and minerals can buy more workers. If you win a fight against an opponent, their army will be weakened, and so winning a battle theoretically leads to a greater likelihood of future wins.

Of course, the design of the game is more subtle than that; there are "thresholds" to break positive feedback loops, both for resources and army strengths. There is a maximum number of workers for each mineral patch and vespene geyser to maximize its productivity; at some point, more workers do not affect productivity at all since they cannot harvest the same resource patch at the same time. The player must build an expansion to gather more resources. This helps control the strength of each army. Since stronger units will cost more gas, they will be limited in an army, but can be balanced with units costing only minerals. In the foreseeing paradigm, investing only in workers early on has a shadow cost: the adversary will probably take advantage of your decision and invest in military units to attack you. Quick expansions are only efficient strategies if the player can defend more than one base in the early game. Eventually, technology and upgrades also become necessary, as the Dragoons versus Marines example showed us. The game becomes an equilibrium between investing in economy, military, and technology/upgrades.

Since game units are tangible resources and occupy a specific space, the strength of individual units is not only their attack score, armor, hit points, etc., but also their mobility. For example, vultures are very fast units that can bypass an army and buildings to attack workers, even if they do not deal a lot of damage—especially against buildings. Siege Tanks are very slow units but have a very high attack score and do splash damage to nearby targets. The importance of mobility and immobility is deeply tied to map design: the Dragoons versus Marines example works when a bunker can protect a base through a choke point, which is not the case in every map.

Warcraft II is probably the first game where establishing a wall with your buildings was possible: to block the opponent's units from entering their base, the player could build towers but protect them with farms,

which were ironically more resistant than the defense towers themselves. This tactic will be reiterated in a lot of RTS games. Most static defense or very slow units have strong attacks. An army losing a battle will usually retreat behind defenses when repelled, therefore blocking the progression of the winning side—and thus breaking the positive feedback loop and buying time to strengthen their defense or to devise a counterattack.

In fact, in RTS games, the resource of utmost importance is, perhaps unsurprisingly, time. To have a long-term advantage, players must invest in technologies and upgrades. Climbing in the technology tree has its advantage, but can mean a short-term risky situation. If a player wants to transition to Ultralisks in late game,[3] they would need to consider the cost of building a Queen's Nest, a Hive, and a Ultralisk Cavern in addition to the individual cost of each Ultralisk.[4] Ultralisks thus have a "sunk cost" (Schreiber and Romero 2022, 567): 500 minerals, 450 gas, and 260 seconds would have to be invested before the first Ultralisk even starts to be trained. A lot of resources and time thus will only be efficient *after* the move is made—which means minimally 320 seconds (5:20) after the initial decision to transition to Ultralisks. Of course, strategy is not linear: a Queen's Nest and a Hive could have been built for other purposes (Defilers, Guardians, etc.); nevertheless, decisions take time, and this time gives a window of opportunity that can be exploited by opponents.

In the same way, Psionic Storm technology is almost a necessity for using High Templars; they come with an investment of a total of 152 seconds (Citadel of Adun, Templar Archives, Psionic Storm Research) excluding the time to build the Templar itself (32 seconds) and the waiting time for its mana to replenish to 75 which can occur concomitantly to the Storm research. Upgrades are also very costly: to add +1 to each Zergling attack, the player must build an Evolution Chamber and research Melee Attacks, for a total of 306 seconds. Adding other upgrade levels will have more requirements in the tech tree. The return

3. Foreseeing *StarCraft* games tend to be described in phases. The "early game" is the moment in the game that can be described in a single build order, and it transitions into the "mid game," where build orders usually clash. "Late game" describes the moment when most bases on the map are occupied and where units at the end of the technology tree are used.

4. According to the cost of the latest version of the game, a Queen's nest cost 150 minerals and 100 gas, and takes 60 seconds to build. You would have to then add a Hive (200M, 150G, 120s), and a Ultralisk Cavern (150M, 200G, 80s), and then build each ultralisk individually (200M, 200G, 60s each, but up to three ultralisks can be trained simultaneously for each Hatchery if the player has enough minerals and gas).

on investment for an upgrade or technology will only take effect seconds or minutes after the initial cost; this could be a window of opportunity for the opponent to have a stronger army if they are willing to risk being behind in technology.

The player must invest intelligently between economy (workers and expansions), mobile or defensive units, and technology and upgrades. Knowing what to prioritize depends on information mostly hidden from the other side: gathering information is a crucial part of *StarCraft*'s multiplayer games. Against a human player, each choice has implications on the long run and needs taking into consideration the opponent's choices.

The fact that buildings are tangible resources is crucial to foreseeing. In classical strategy games like *Sid Meier's Civilization* (MPS Labs 1991), "you don't get to see other players' position on the tech tree" (Morris and Hartas 2004, 73). In *StarCraft*, progressing in the tech tree means having a new building that the opponent can spot; the building embodies the technology. Future courses of action are foreseeable that way: if one wants to know if their opponent chooses a specific path in the tech tree, they will try to scout the map to find their buildings. In the Ultralisk example earlier, a player can spot a Queen's Nest and anticipate the arrival of Ultralisks in the game. Scouting becomes of utmost importance to anticipate game states.

The possibility of hiding buildings was in fact a very conscious design decision since *Warcraft II* for Blizzard designers. In *Dune II* and *Warcraft: Orcs & Humans*, buildings had to be linked. In *Warcraft II*, designers would initially fear that by removing the road mechanic, a player could build a production building near its opponent's base and recruit new units from there (Craddock 2013, "Bonus Round 2"), a strategy sometimes referred as the "moebius effect." That fear would reveal itself to be true but would become a "feature" rather than a problem: it would consolidate scouting as a necessary strategy in the early game. Of course, it is one thing to know what an opponent will do, it is another one to use the right actions to counter their strategies.

The precision of the game economy shows how fragile game balance can be. The building time of Zerglings had to be raised in the beta phase to limit the rush effectiveness (Kasavin 1998d), and the *Brood War* expansion would also make larvaes "generated more slowly to prevent rushes" (Coffey 1999, 212). It had to be corrected further in 2001 by augmenting the cost of the Spawning Pool, as described earlier. A higher price for the Spawning Pool meant that a few additional seconds were required

before six Zerglings could be ready, just enough to make the strategy possible to counter if scouted. Knowing what to change is not necessarily easy. The cost of Zerg Hatcheries is an interesting balancing example, since they play as both worker and army production buildings. In patch 1.02, released in August 1998, the cost of an Hatchery was raised from 300 to 350, but it would come back to 300 in patch 1.04 in December 1998 (TeamLiquid 2019b). This kind of back and forth is rare but shows how balancing is an iterating process.

Brood War was released the same year as the original game, but came with considerable changes, some of which were also included in a free patch (1.04) released at the same time. The introduction of permanent invisible units for Protoss (Dark Templars) and units that could attack while burrowed under the ground for Zergs (Lurkers) raised the importance of detection to the point where it can be a question of victory or defeat. As *Gamespot* would underline, "seemingly minor but terribly significant modifications to unit costs, damage rates, hit points, and build times suddenly make the game play very differently" (Gamespot Staff 2000). Consequently, strategy guides from 1998 are vastly different than more recent ones. A deeper look at these guides shows how diverse are the audiences they are writing for: from those seeking help for the campaign to players loving specific multiplayer game maps.[5]

An official "no rush" rule integrated in the game would have very wide implications. Having rushes as the only viable solution is of course not interesting. But the "no rush" rule discredits more than the rush as anticipated game states: both rush and "counter-rush" become useless.

5. Clearly, strategy guides have widely different implications depending on the metagame they are strategizing for. *Liquipedia*, a wiki website managed by TeamLiquid that I use a lot for in-game information, was a very important community-based source to underline strategies and to keep track of their evolution in progaming. But playing competitive "ladder" games is quite different than casual play or progaming. Some strategy guides published on GameFAQs, for instance, were written by players with very little gaming experience, which they sometimes semi-explicitly admit (Kurlish 2000). In most cases, they are rendered obsolete by patches (for instance, Aardvark 2004; Fong and Colayco 1998; Tobias 2003). Others aim directly at the decoding aspect of the game. Farkas' official strategy guide mostly covers the campaign missions, and only include six pages out of 246 dedicated to multiplayer strategies (Farkas 1998a, 210–5), including two to explain how to connect to Battle.net. Others closely focus on strategies for specific types of maps: "big game" or "much money," where every opponent on an otherwise standard match has a base with a lot of money, thus reducing or eliminating the need for expansions (Kurlish 2000; Lee 2000): see "Campaign Editor" in chapter 5.

Early fights that were part of possible worlds suddenly become impossible, which renders useless any defensive position, and thus a dominant strategy would be to simply expand and claim as many resources as possible early on, as described in the example opening this chapter. While playing by "no rush" could seem like a good exercice until a player is familiar with the game, it is another example of a "garden path" as described by James Paul Gee (2004, 138) and evoked in chapter 1. Learning to play with this rule does not train a "good habit" since what is learnt will not be useful later. It is thus not surprising that "no rush" would remain something of a house rule; what *is* surprising though is that this house rule was so widely spread among the multiplayer community.

Multiplayer Infrastructures

During a period where piracy was quite commonplace, Blizzard relied on multiplayer as an attractive key selling point. The development of multiplayer infrastructures and of an online culture was not necessarily obvious in the 1990s. Westwood used a clever strategy with *Command & Conquer* in 1995 to facilitate multiplayer play through a Local Area Network (LAN): the box featured two game disks, one for each faction, so you would only have to buy the game once to play with a friend. Of course, it could have a side effect: two friends could share a single copy of the game. *Warcraft II* used another strategy: a player could install the game on any number of computers, but it would only make it playable in a multiplayer game with at least one player who has a legit disk—with up to eight players in the same game for each disk. Rather than losing a sale, Blizzard would likely gain one if another player were seduced by the game.

One year later, *Diablo* would adopt a similar strategy later also implemented in *StarCraft*. To play the full version, you would have to have the game disk. You could install (with the game CD) a "spawn" version of the game (Coffey 1998, 169), which featured a demo campaign in single-player mode and would let the player joins multiplayer games created by the owner of the "spawner" through LAN or modem. The real innovation with the release of *Diablo* was the beginnings of Blizzard's own online gaming service: Battle.net.

The widespread use of the Internet certainly changed the way strategy games culture spreads. Before *Diablo* and Battle.net, most video games were not programmed to be played online. *Warcraft II*, for instance, could only be connected to a network through an IPX protocol rather than a TCP/IP, necessary for Internet play. Yet, one program was widely used to

emulate an IPX connection through TCP/IP: Kali. Kali was initially created to support online gaming for *DOOM* (id Software 1993), but a lot of games were added to their roster, including *Descent* (Parallax Software 1995) and *Command & Conquer*. The software would connect computers together, configure them so that every game uses the same parameters, support discussions through chat, and show a list of potential opponents (Nideffer 2007, 203). As Jay Cotton and Scott Coleman from Kali recall, Blizzard added "performance tweaks" through a specific executable on the *Warcraft II* disk to improve its compatibility with Kali (Craddock 2013, "Bonus Round 6") and facilitate its use (Geryk 2001, 4).[6]

In addition to Kali, North American players could connect to game servers through applications like Mplayer, Total Entertainment Network (TEN), Heat, or GameSpy3D, and find an opponent to play a game. Most of these services were subscription-based, contrarily to Kali, and would only last for a few years. Video game developers eventually launched or acquired their own services, which would mostly be free of charges and be relying on advertising for revenues: Battle.net for Blizzard (1997–present), Microsoft's Internet Gaming Zone (bought from Electronic Gravity in 1996), and Westwood Chat in 1997 for the *Command & Conquer* series. Since these services were not really profitable (Eng 1997, 73), it is unsurprising that smaller companies such as TEN were more reluctant to use the "free to play" model (Eng 1997, 74; in Kline, Dyer-Witheford, and De Peuter 2003, 166), while larger companies who owned the games had the cashflow to support a net loss in the service itself.

Mike O'Brien, programmer at Blizzard, used Kali as an inspiration for Battle.net. "O'Brien found Kali's business model and ease of use as appealing as its catalog of supported games" (Craddock 2013, ch. 12). Battle.net ended up as their rival, since 80–90% of the games played on Kali were Blizzard's (Craddock 2013, "Bonus Round 6"). Kali had no business intention, being supported by amateur and dedicated developers rather than a business team; it would be bought by a Korean firm, Be Technology, in 1999 (Jin 2010, 152). Battle.net is the quintessential example of the "persistent commercial pressure to segment online networks into private monopoly domains" (Nideffer 2007, 202).

6. The 1980s already had CompuServe and other matchmaking services. A Usenet discussion a few years later on the question of the first real multiplayer game through the Internet shows how online gaming is quite recent and that its popular emergence for a strategy gaming community can be linked to Kali and *Warcraft II* (RayO 1999).

Two things were especially important for the development of *StarCraft* through Battle.net. First and foremost, *StarCraft* would "only be available for online play through Blizzard's proprietary online service, Battle.net" (Feldman 1997). It was the only hub to play *StarCraft* online, which led to the advantage of having a massive gaming community there rather than one dispersed. Battle.net would not be able to detect if a game was pirated, but only one instance of the game associated with each CD key could be connected simultaneously. A player would not be able to play online with their neighbor if they did not buy the game. Third-party developers tried to open private servers to play, but they were met with legal barriers. One program, bnetd, yielded some "benefits like faster response times" than the Battle.net server, but Blizzard defended successfully their exclusivity in front of a US federal court near the release of *Warcraft III* (Gamespot Staff 2005).[7] Westwood, on their side, supported Westwood Chat (for the Gold version of *Command & Conquer* released in 1997), but *Red Alert*, for instance, could be played on Kali, GameSpy, TEN, Mplayer, or Heat. Blizzard would regroup every *StarCraft* player in the same gaming community.

Second, and this is maybe of even utmost importance, patches were mandatory to play online. It would be impossible to play a *StarCraft* game on Battle.net without downloading first the most recent patch. Of course, it seems very normal in an age where everyone is always connected to the Internet. However, in 1998, a lot of Internet users had to connect through a 33.6K or 56K dial-up modem rather than faster broadband connections, which meant their download speed could be sometimes as slow as a few kilobytes per second and would block their phoneline for a long period of time. Since online play was not the default mode, it would not be rare that two players did not have the same patch applied—and they could not play together without patching the game. There were many "*StarCrafts*," as Christian McCrea writes (2009, 186). It meant that there was a lot of waiting time before they could play their game. As such, it was not an evident move for a company of the size of Blizzard. Yet, it would make *StarCraft* memorable not for a dominant strategy—i.e. the initial strength of the Zerg rush—but for its balance. That is why what is at stake here is not how the game was balanced, but how it was

7. Robert F. Nideffer links the legal actions directly to the release of *Warcraft III*: "Although Baysinger [the founder of bnetd] had been threatened with cease and desist letter as early as 1998, no action was taken. This changed with the impending release of *Warcraft III* in 2002" (2007, 206).

designed to be rebalanced if needed. If a dominant strategy was to be found, as Colin (1998) insists was inevitable, it could be fixed. These two decisions appear quite normal noawadays, when some games need an internet connection even when playing in solo mode, but they were far from normalized in 1998.

Red Alert also has a legacy in multiplayer gaming; it is one of the first strategy games to be massively invested by players on the Internet. As Ernest Adams wrote (2014, 406), the "Soviet Tank Rush" is probably the most famous example of a dominant strategy: it is almost impossible to counter, except with a Soviet Tank Rush of your own. It was already evoked in a game review in 1997 as an extremely functional strategy (Smith 1997, 52).[8] A few years later, a simple patch could have fixed that problem; yet what was an unfathomable solution in 1996 became a business and customer service model by Blizzard by 1997.

For its contemporaries, *Red Alert* is still thought of in terms of decoding. A reviewer suggests that saving during the game is indispensable (Teng 1997, 52). Teng also quite clearly describes the importance of the decoding paradigm in *Red Alert*: "Through each death, we come to know the ideal path to reach the goal" (1997, 52, translated from French). While *StarCraft* adopted a centralization strategy that could make it a longer-term project that did not end on its release date, *Red Alert* could not be morphed in a balanced foreseeing game. This centralization of online play also meant that every type of player played on a shared infrastructure that could share playing styles themselves.

Sharing a Culture

The quintessential foreseeing mode of the game is "ladder" games. As described earlier, "Ladder" was a mode on Battle.net where maps were created and/or selected by Blizzard to be suited for competitive play. They were relatively standardized, having a number of resources quite stable in the starting location and in the nearest expansion spot, in order to stabilize the metagame in a competitive context. The game would then keep track of the players' results. The top players in the ladder were invited to tournaments with cash rewards organized by Blizzard. Still, it was nowhere near the organization of what e-sports are nowadays.

8. It is also referred to in an *Age of Empires* review six years after its release (Holland 2002).

One of the most important progaming event in North America was the Professional Gamers League (PGL). Organized by Total Entertainment Network (TEN), and held from November 1997 to January 1998, the first PGL featured *Quake* (id Software 1996) and *Red Alert* competitions and had a pricepool of $250,000 (Coleman 1997). In June 1998, *PC Games* magazine covered competitive video gaming in a special feature titled "Professional Gaming: Boom or Bust?" Daniel Morris reminds us that progaming has existed for a certain time in gaming tournaments:

> Earning money by playing computer games isn't new—cash-competitive LAN tournaments have been with us for a long time—but imposing a very structured, organized, systematic competitive league where qualifying and elimination rounds are played over the Internet is very new.
>
> (Morris 1998, 47)

There is still a material entry barrier to online gaming: a Pentium 100 MHz computer is considered a minimum and is not necessarily affordable (Brenesal 1998, 52). Yet, this barrier is not the only one. Even after the "counter-rush" is mastered, there is a huge gap between high-level players and beginners. One of the reasons is that even if Battle.net regroups them, they are not necessarily in the same communities of practices, they do not share the same spaces nor see the same strategies.

In this sense, tournaments were one way to share a common culture around playing a video game, what Henry Lowood would dub as "replay culture" (Lowood 2008). Battle.net began to publish descriptions of official *StarCraft* tournaments, underlining some impressive feats from the best players to consolidate their community (see "SCC: Battle Reports" 1999). It is still very abstract to read a tournament's report compared to seeing it directly in video, which were quite uncommon during the first years of the game. YouTube Video-on-Demands of progamers and Korean tournaments would not be available before 2005 and were initially mostly uploaded by fans, which did not necessarily succeed in having a high video quality.

It is not surprising to see the "replay" feature of strategy games make a comeback at the end of the 1990s. Replays would exist in a few strategy games—including those from Danielle Bunten Berry—in the 1980s up to *Global Conquest* in 1992 (see Lowood 2008), but—according to Mobygames—they would come back in 1997 in *Sid Meier's Gettysburg!*

(Firaxis Games East 1997). *StarCraft* would add the replay feature through a patch in 2001 (TeamLiquid 2019c). Looking back at their game through replays lets players understand what happened and how to foresee their opponent's actions. Replays could theoretically facilitate the transmission of specific metagames especially before YouTube launched in 2005, although of course e-sports tournaments broadcasting would eventually let them propagate far more easily.

Some insider knowledge was even more difficult to know. Tasteless wrote an article explaining that progamers have their own mechanical keyboards to feel the response of each key and use a trick to play faster: they remove some useless keys to make the most important ones easier to reach with their fingers (Tasteless 2009). It can go further: according to Rea, Lee "Flash" Yeong-ho "is infamous in the Korean *StarCraft* community for using a ruler to align his keyboard and mouse pad on the competition desk exactly the same way each time that he competes" (Rea 2015, 168). Optimizing play depended on knowledge well beyond the game's official channels.

The infrastructures needed to play were also externalized at some point. Blizzard stopped supporting a ladder for *StarCraft* for a certain time before the *Remastered* edition, probably somewhere between 2005 and 2008, although the specific date is not clear.[9] Competitive enthusiasts wishing to play in "Ladder" mode would eventually migrate from Battle.net to third-party servers mostly unknown for casual players. Even after the bnetd takedown, third-party servers continued to exist, using a software called PvPGN to emulate Battle.net servers. The website and organization iCCup used PvPGN to host an alternative server to Battle.net called "The Abyss." Based in Russia, the server grew in popularity to the point where some Korean progamers played on it. But iCCup was interesting in that it also offered a downloadable "launcher," which included three third-party plug-ins. The first one is an antihack, which guarantees to other players that no hacks are used on the same computer as the launcher. The second is the "Chaosplugin," created by

9. Anecdotically, in 2021, one person from the Blizzard staff seemed to not know it used to exist. When one forum user asked if they could play ladder games without buying the *Remastered* edition, a customer support person, nicknamed Leviathan, replied that, before the *Remastered* edition, *StarCraft* "never had a ladder." When another user, PsYChiC, rightfully intervened to state that there was a huge button with "Ladder" on it on Battle.net, Leviathan precised that "[t]here wasn't an MMR based matchmaking system before Remastered" (Crowley42 2021).

MasterOfChaos, that adds convenient features: autosave replays, deactivate Caps Lock & Windows key, and support for a specific mouse sensitivity. The last is the "W-Mode" created by XeNotRoN, which could open the game in a window, lock the mouse in it, and upscale its resolution up to 1280x960 (rather than the original 640x480) (TeamLiquid 2015a). PvPGN was also used for other public ladders, such as the Korean server Fish and the TeamLiquid StarLeague. Progamers and competitive players at some point could not count on the support of Blizzard and had to rely on their own tools and networks.

The Emergence of a Metagame

This chapter clarified the historical emergence of the foreseeing paradigm, showing how, for technological and cultural reasons, it could not have been developed earlier. Before multiplayer games could be easily connected and patched, competitive play was almost impossible. Contrarily to other RTS developers, Blizzard took this technological challenge seriously and truly supported their game beyond the release date—albeit not as long as e-sport communities needed—a business practice that took more than a decade to be widely implemented in the gaming industry. The emergence of a cultural activity such as competitive RTS gaming could not have happened if a specific conjuncture was not in place as it was the case with *StarCraft*.

Changes with patches adjusted not only game balance, but also usability in general. In 2001, the "Top vs Bottom" feature was added, simplifying the overly complicated confrontation between more than two players :

> This template functions like Melee, with the exception that players in each half are automatically allied and share vision at game start, thus removing the "who am I allied with" question (and reducing the amount of clicking done after the game starts).
>
> (quoted in TeamLiquid 2019c)

The use of "rally points" with a simple contextual click was added with version 1.12 in 2005 (TeamLiquid 2019d). Game speed was also adjusted: while they were customizable in normal games, they were imposed in ladder games. The "standard" game speed was "Fast" before patch 1.15 in 2005, when ladder games changed for "Fastest" speed (TeamLiquid 2019d).

Between May 1999 (v1.05) and May 2001 (v1.08), there would not be any change in terms of game balance. While patch 1.06 in September 1999 would fix bugs and exploits and change a few features, the patchlog for the 1.07 patch in November 1999 has a strange mention: "Adds support for Korean tournament (KBK)" (TeamLiquid 2019b). As we will see in the next chapter, this small mention reveals one of the most important turning points for *StarCraft* as a landmark in video game history. South Korea would be crucial for both *StarCraft* and e-sports history.

CHAPTER 4

Path of Ascension

> … it is reasonable to say that the commodification process of online game fans is both a bottom-up fan-driven process and a top-down corporate-driven process.
>
> — DAL YONG JIN (2010, 116–7).

The Terran Emperor and the Green-Eyed Warrior

The first anecdote I heard about South Korea and *StarCraft* was the "SCV rush." In the 2002–2003 KPGA Winners Championship, Lim "BoxeR" Yo-hwan performed a rush against Hong "YellOw" Jin-ho. While most rushes are done with military units, the originality of BoxeR here lies in the fact that his main attacking units were Terran worker units, SCVs. While some Marines were supporting them, the sole number of SCVs at an early and unexpected moment in the game, along with the execution skills to attack the right targets, was sufficient to secure a win.[1] The singularity of his strategies and the high stakes of risking them in tournaments was BoxeR's signature and what earned him the "Terran Emperor" nickname.

Of course, the possibility of a very early attack with worker units in a game already existed in *Warcraft II* or in *Age of Empires*, for instance. After all, workers *could* fight and thus could be part of an attack. It was theoretically possible beforehand, but only happened publicly in 2003. BoxeR

1. The game is archived on YouTube (VioleTAK 2006) and described on the TeamLiquid wiki (TeamLiquid 2019e).

did not "decode" how to manage a SCV rush, nor did he decode how it was the best strategy under certain circumstances. The SCV rush works in the foreseeing paradigm: one player knows exactly what the game rules are, knows when their opponent can be weak and how the current state of the game can exploit this weakness. E-sports work because it is anchored in the foreseeing paradigm: the strategies were not "encoded" in the game rules to be unfolded by the best players out there, but they work because players can outsmart their opponents. An SCV rush is less efficient today now that it is added in the repertoire of plays but is still a very viable possibility, probably more so in *StarCraft II*. The foreseeing paradigm is a necessity for the kind of competition existing in Korean e-sports.[2]

Around the same period, I also vaguely heard about Guillaume "Grrrr…" Patry, a fellow Quebecer who became the most renown foreigner on the e-sport scene.[3] After being qualified in the ladder, he won a third place at the first professional *StarCraft* tournament in November 1998 (Gagnon 2002, A23), which led him to move to South Korea to further prove his skills. Grrrr… won the Hanaro Telecom Tooniverse Starleague in 2000—which would be retrospectively considered the first OnGameNet Starleague—and would be the first and sole foreigner to win a *StarCraft: Brood War* tournament (Béland 2019). As a top progamer, Grrrr… was a celebrity in South Korea during these prime years, where he was nicknamed the "Green-Eyed Protoss."

Grrrr…'s journey in Korea did not have a lot of media coverage in Canada in the 2000s, and it is often treated as something between a curiosity and an anecdote.[4] The foreign press shows little understanding of how competitive games work, some of them citing *StarCraft* as a "specialty" (Ross 2003, A18; Davidson 2004, F3) rather than as his discipline. Grrrr… eventually switched to professional poker before he became a columnist on Korean TV shows, which gave him back a certain public

2. Some competitive play can be though in terms of decoding, especially in single-player competitions such as arcade games and speedruns, where one must "decode" an optimal play pattern (or know a previously "decoded" pattern) and practice it over and over again.

3. "Foreigner" refers to an e-sports player who is not Korean (Rea 2015, 173). Since I am also from Quebec, finding newspaper articles on his Korean endeavors was easier.

4. I found almost as many short newspaper articles reporting Guillaume Patry's skiing performances, which was his first athletic career as a teenager and which had a local coverage in Quebec city's newspapers.

notoriety (Morrissette Beaulieu 2019). He got almost no media coverage in Quebec when he went to Korea, if at all, but a few newspaper articles praised his pioneer status when he came back in 2019. The Korean cultural phenomenon took some time to reach Western mainstream media. The change in attitude towards professional play between 1998 and 2019 shows that e-sports have been normalized outside of the country in the process.

E-sports as we know them today emerged in South Korea at the end of the 1990s with *StarCraft* (Chee and Smith 2007, 171). South Korea was not an especially relevant market for Blizzard at the game's release date: it was not even localized in Korean (Donovan 2010, 312).[5] Yet, Florence Chee and Richard K. Smith note how professional gaming "has developed into a fully integrated industry that includes gamers, teams, corporate sponsors and the audiences" (2007, 172). To say that the game was a commercial success in South Korea is an understatement: 3.5 million copies were sold on their territory out of the total six million sold from 1998 to 2002 (Huhh 2009, 106); these numbers would rise to 4.5 million copies out of 9.5 million in 2007 (*Korea Times* 2017). Larissa Hjorth, Bora Na, and Jun-Sok Huhh go as far as to say that *StarCraft* is "the game that defined the Korean gaming industry" (Hjorth, Na and Huhh 2009, 255).

The fact that gaming is prominent quantitatively in South Korea does not really indicate why e-sports fostered there. The Korean e-sport exception must not, as T. L. Taylor warns us, push us towards a "techno-Orientalism" (2012, 17). Lily Zhu observes that there are too often cases where South Korea is blurred in the general "Asia" denomination, reduced as "that Asian nation" rather than a country with its own sociocultural context (Zhu 2018, 237). She explains how xenophobic discourses surround e-sports, citing the example of an e-sports organizer who claimed that players from Asian countries have an almost "inhuman" tendency to sacrifice everything to perform mechanistically at e-sports and benefit from a "collectivist environment" where they perform for the group (2018, 237). The South Korean e-sports performances must be explained beyond these problematic national or regional stereotypes.

It is undeniable that something happened in South Korea at the end of the 1990s that let *StarCraft* gain such popularity. As T. L. Taylor rightfully underlines, if a game is the product of a developer, it also exists "in

5. Lead artist on *StarCraft II* but employed by Blizzard since 1996, Rob McNaughton reminds us that it was around 2000 that they heard about e-sports in Korea (in Andreadis 2018).

a broader ecosystem of games and e-sports structures" (2012, 166). The role a game plays as a cultural object is never fixed. Kishonna L. Gray notes that the meaning we ascribe to technology is never ended, since it is always an "ongoing, negotiated process whereby one influences the other on a continuum" (Gray 2020, 4). Larissa Hjorth and Dean Chan specifically call forth game research that analyzes *how* and *where* games are produced *and* played: "the omission of a coterminous critical attentiveness to the socio-cultural contexts of production, circulation and reception invariably risks theorizing games as a transcendental free-floating signifier" (2009b, 5). I will argue, following Florence Chee's footsteps, that cultural artifacts can have a "different ascribed meanings depending on the cultural context" (2006, 225).

E-sports have gained an aura to relativize but to take seriously, since the aura itself is also constitutive of the importance of *StarCraft* from an international perspective. In order to underscore the importance of the South Korean *StarCraft* community and competitive scene, a whole chapter is necessary. The main idea is to explain how *StarCraft* became iconic in South Korea and the impact it had on the formation of e-sports.

Context of Institutionalization

One of the reasons *StarCraft* became popular in South Korea is the place PC gaming occupies in the country. Contrarily to Japan and most of the rest of the world, where console games are prominent, "online games dominate in South Korea and mainland China" (Chan 2008, 188). At the end of World War II, following the withdrawal of occupying Japanese troops in the Korean peninsula, South Korea adopted a series of laws to restrict the importation of media products, targeting especially Japan. As such, Japanese video game consoles were not legally distributed (Chan 2008, 188). The ban slowly lifted from 1998 onwards while still being active on some cultural products.[6] But, having missed a window of opportunity, console gaming never managed to reach a high popularity. PC and online games had an edge to stay dominant (Jin and Chee 2009, 26).

Meanwhile, successive South Korean governments since the 1970s put in place different initiatives to grow their technological sector (Chee and Smith 2007, 166). Amidst the Asian financial crisis of 1997, which saw

6. Chan underlines the 1998 date for the lift of the ban, while Huhh (2009, 106) notes that it is in 2001 and Jin (2010, 50) adds that the first console was available in 2002.

a high unemployment rate, the government accelerated its strategic plan to rehaul the connectivity of the country. *StarCraft* contributed to the rapid growth of broadband connections and Internet cafés at the end of the 1990s (Jin 2010, 24).

If the first Internet connections reached Korea in 1994 (Huhh 2009, 103), it would not take long for broadband connections to take over. The 1997 financial crisis accelerated the need for the deployment of high-speed Internet, which was already a priority for the government (Jin 2010, 20–1). The first broadband services were available in 1998, and by 2003, the country "had the highest usage of broadband connections in the world" (Chan 2008, 189). In 2008, 95% households were connected to the Internet in South Korea, while by comparison it was the case for 76% Canadian and 60% US homes (Jin 2010, 17). The cultural importance of connectivity is also and perhaps more closely tied to gaming Internet cafés, called PC Bangs.

According to Jun-Sok Huhh (2009, 104), the number of Internet cafés increased at the end of the 1990s for two reasons: the policies put in place by the Korean government, and the release of *StarCraft*. Since youth faced a serious unemployment problem under the financial crisis, PC Bangs emerged as a popular pastime (2009, 107). PC Bangs had a business model where game licenses were bought to be shared to their customers, who could play at a relatively cheap hourly fee (Chee 2006, 234). *StarCraft*'s distributor in Korea, HanbitSoft, made the gamble to distribute free copies of the game at the newly proliferating PC Bangs, which would amount to around 1.5 million of game sales (Huhh 2009, 107). They also had a paying policy where "the more you stay on, the lower the hourly charge gets" (Huhh 2009, 105), which encouraged long social gatherings and, unfortunately, gaming excesses. Since *StarCraft* was widely and freely shared to PC Bangs through its distributor, the "pay-per-hour" business model far from usual in the 1990s snowballed its popularity.

The first PC Bangs were founded in 1995, and they grew from 100 in 1997 to 3,000 in 1998, to up to around 23,500 in 2001 (Jin 2010, 25). According to Jin, the "first professional game league (Korea Pro Gamers League; KPGL)" that started in December 1997 was held in a PC Bang (Jin 2020, 3732). Although most of the games available in PC Bangs would also be playable from home, youth would often prefer to play them as a social activity rather than a lonely one (Chee and Smith, 2007, p. 175), regardless of their gender (Hjorth, Na, and Huhh 2009, 253). As Chee and Smith put it, gaming is not necessarily "frivolous"; PC Bangs have a

certain social role, being even a social obligation or duty between friends (2007, 173). Peichi Chung indicates that social gaming is part of Korean youth culture (2015, 508). In 2008, 20% of games played in PC Bangs were Blizzard games (Jin 2010, 40–1). PC Bangs eventually decreased in popularity: they shrunk to around 13,500 in 2013 (Jin 2018, 303).

A few Korean online games hit the shelves during the late 1990s, most notably *Nexus: The Kingdom of the Winds* (Nexon 1996) and *Lineage* (NCsoft 1998) (P. Chung 2015, 499). *Nexus: The Kingdom of the Winds* is one of the first graphic massively multiplayer online game, using 2D sprites more common in single-player role-playing games (RPGs). *Lineage* used to be the "world's most heavily populated MMORPG [massively multiplayer online role-playing game]" (Chan 2008, 187), from 2001 to the point where Blizzard's *World of Warcraft* (Blizzard Entertainment 2004) took over. *Lineage* was also a common game played in PC Bangs. South Korea was "the largest online game market in the world until 2008" (Jin 2018, 303), when it was surpassed by the Chinese market.

South Korea was not especially renowned for their own real-time strategy (RTS) games. Joymax did release two games mentioned earlier (see in chapter 2, "I know it's not 3D"). Another game company called Dong Seo Interactive released a few games borrowing an historical setting (Pepe 2021). For instance, *Gwanggaeto Daewang* [The Forgotten Land] (Dong Seo Interactive 1995) was set during the Korean three kingdoms period. In their next games, they shifted towards a science fiction setting: *Three Kingdoms Divine Destiny* (Dong Seo Interactive 1998) is strongly influenced by *Command & Conquer*'s gameplay, and its sequel, *Three Kingdoms II: Clash of Destiny* (Dong Seo Interactive 2000), is almost a *StarCraft*-clone visually. Both take place in a science fictional setting echoing the three kingdoms period of China.

The huge gap between computer games in Korea and the rest of the world is not on the production side of games, but on their reception. When the *Remastered edition* was released in 2017, the *Korea Times* underlined how *StarCraft* "has changed not just Korea's game industry but also public perceptions of gaming" (*Korea Times* 2017). During the 2000s, Chee and Smith remark how the image of computer gamers is different in Korea than in the rest of the world (2007, 166). Good players are given high respect rather than seen with a certain social stigma. By the mid-2000s, 54% of South Koreans were online game players (Chee and Smith 2007, 166). This set the stage for accepting computer games as a normal and integrated activity within daily life.

Video game competitions and tournaments already existed before the emergence of e-sports and gathered some attention from both developers and journalists. As stated earlier, Battle.net supported Korean tournaments with specific patches, but it also supported CompUSA tournaments in 2002 (TeamLiquid 2019d). In the United States, gaming tournaments were not necessarily met with enthusiasm even among video game journalists. For instance, Jeff Green from *Computer Gaming World* called the PGL a "harebrained scheme" from Total Entertainment Network (TEN) and said that "paying to watch other people play Quake is a line that we as a species cannot afford to cross" (Green 1998, 235). Well, we clearly and voluntarily crossed it.

A number of events in North America could echo a resemblance to today's e-sports and are often retrospectively dubbed as e-sport events (see Borowy and Jin 2013; Hiltscher 2015), but each of them is quite isolated in their endeavors and lack a perennity. Nintendo World Championships are one example. As Tobias Scholz emphasizes, these tournaments were mostly useful for Nintendo "to promote its video games" (2019, 20). Even though, at the end of the 1990s, there were quite a few tournaments (Scholz 2019, 21), they were very far from a systematic and organized phenomenon.

It is not necessarily relevant to say that these events are "not e-sport." As Emma Witkowski reminds us, "eSports are many things" (2010, 56). But as with traditional sports, any definition of e-sports can have "gendered, colonial, social class, attitudinal and ableism exclusionary foundations" (Witkowski 2022). Acknowledging the existence of early video game competitions must not eclipse or "steal contributions" (Gray 2020, 21) from South Korea to the e-sport scene.

Dennis Hemphill, in a paper published in 2005 in the *Journal of the Philosophy of Sport*, asks if video games can be viewed as "Cybersports" for their "skillful play," but never links them to any preexisting formal competition (2005). In a 2007 piece called "RTS as a Sport" and published three days before the release of *Command & Conquer 3: Tiberium Wars* (EA Los Angeles 2007), *IGN* revealed the new Battlecast system where players could commentate on other matches and even use a virtual pen to mark the screen as in football games (IGN Staff 2007). Of course, the equivalence with today's e-sport is evident; it is obvious that a parallel should have been drawn with e-sport. But in 2005 and 2007, even in RTS games communities, "e-sport" is not a common expression nor a common cultural activity outside of South Korea.

In that sense, one must be skeptical when researchers insist that e-sport predates South Korean institutions. Writing on e-sports and streaming, T. L. Taylor identifies three waves of e-sports (2018, 4), the first being the arcade and home consoles in the 1970s and 1980s, the second being institutionalized by online play infrastructures and inspired by traditional sports organizations, while only the third—starting around 2010—would use the power of television and media entertainment. The scope of early video game competitions in the "first wave" and Korean e-sports in terms of technology, organization, and reach should show how, clearly, they are two different cultural manifestations. Tristan Donovan notes how incomparable Korean e-sport scene is to the US's Cyberathlete Professional League, which would see 30,000 online spectators as a great achievement, while the World Cyber Games would attract 50,000 spectators live plus "hundreds of thousands more on TV and the internet" (Donovan 2010, 312). We shall add that the latter *paid* to be there or to see it broadcast. Foreign competitive gaming events were not systematic, were not televised nor broadcast on the Internet (Jin 2010, 65), and generally failed to monetize their events (Scholz 2019, 26). Brett Hutchins suggests that this is the key to understand e-sports: not a mediated sport, but sport *as* a media (2006). Korean e-sports have been persistent in this regard since the turn of the 2000s and emerged from a cultural context that proved to be durable for quite some time.

The Golden Age of Korean e-Sports

Reliable firsthand sources which document the late 1990s in Korean e-sports are rare, especially in English or French. Dal Yong Jin (2010, 59) suggests that the first video game league began in 1997, but the exact date and circumstances are unclear.[7] Following the Liquipedia wiki contributions, we can say with confidence that quite a few *StarCraft* tournaments occurred before 2000, such as the "1999 Tooniverse Progamer Korea Open," the first broadcast league (Jin 2020, 3735). As stated earlier, patch 1.07 released in November 1999 already had a support for "Korean Tournament (KBK)" (TeamLiquid 2019b), while patch 1.08

7. In fact, Jin probably let a typo slide in his text when he states that the first league of *StarCraft* was founded in 1997 (*before* the game was released). He clarifies in a later text that the Korea Pro Gamers League (KPGL) was founded by Hitel in December 1997, but it is unclear which games were played in this league (Jin 2020, 3734).

in May 2001 added specific templates and accounts for Korean tournaments, including "professionals" (TeamLiquid 2019c).

In 2000, *Time Asia* published an article on "professional computer gamers" and "the new sport of online gaming," underlining how South Korea already had three professional leagues and 50 teams (Macintyre 2000). *Radio-Canada* interviewed Grrrr… in October 2000 stating that South Korea had a truly professional circuit unique in the world (Fortin 2000). As early as in June 2000, French newspaper *Le Monde* dubbed *StarCraft* a "national sport" (Saint Clair 2000, 34), while *Libération* related in December 2001 that South Korea already had a professional video game league for two years (Werly 2001b, 27). Of course, these occurrences could be extrapolated sales pitches doubled with a problematic "exoticism," but it is clear that something along e-sports existed before 2000.

A turning point in Korean e-sports is the first World Cyber Games (WCG) in Yongin, near Seoul, in October 2000, which attracted "approximately 174 competitors from 17 countries" (Hutchins 2008, 855). Scholz retrospectively calls it the "first real international eSports tournament" (2019, 22). Organized by South Korea's International Cyber Marketing (ICM) (Hutchins 2008, 858), WCG adopted the Olympics nationalistic and "meritocratic" ideals to legitimize their activity.

The first WCG were held in the amusement park Everland and were described by a European journalist as a "prefiguration" for a world championship to be held the next year directly in Seoul (Werly 2000, 34). In 2001, WCG were organized in the convention center COEX, where the Asia-Pacific Economic Cooperation summit was held a year before (Werly 2001a). Samsung being a major sponsor of the event, the first four WCG stayed in Korea (*Daily News* 2004), before it became a touring event. *StarCraft: Brood War* was one of the four games featured in 2000 and stayed in competition up until 2010, when *StarCraft II* took its place.

The implication of Samsung in the WCG was so important that it simply stopped when they stepped down in 2014 (Scholz 2019, 35).[8] For Samsung, being involved in WCG was not a question of profit, but rather a question of image (T. L. Taylor 2012, 23). It took a few years for large corporations to become interested in progaming (Jin 2010, 93). Alongside Samsung, e-sports teams were sponsored by companies like the Shinhan Bank, SK Telecom, Korea Telecom Freetel (KTF), and Pantech. In a country where there is a mandatory military service, even the Korean Air Force

8. The WCG were back in 2019 after the Korean publisher Smilegate acquired their rights.

sponsors a team: Air Force Challenges e-Sports (ACE) (T. L. Taylor 2012, 25). Support from private corporations was not only through direct sponsorship: the Korean e-Sports Association would be their public vehicle.

E-sports as a word could possibly have been introduced in February 2000 by Ji-Won Park, Minister of the Department of Culture and Tourism, at the inaugural meeting of the 21st Century Pro-Game Association (Jin 2010, 66–7). Founded by the Ministry of Culture, Sports and Tourism, this organization would become the Korean e-Sports Association (or KeSPA) in 2003 (Jin 2020, 3737), and played a key role in the institutionalization of e-sports. The role of KeSPA is to support and manage e-sports on their territory.

KeSPA establishes and regulates the Korean e-sports market. It determines which games can be labelled as e-sports, approves tournaments and leagues to be held, authorizes maps to be played on, gives licenses to TV channels to broadcast games and grant rights to cyberathletes to compete. As with the WCG, it is "highly corporate in nature given the source of their funds" (Summerley 2019, 8). Yet, it rose from a public initiative to help grow this new technological sector and to project South Korea on the international scene. It is thus both a public and corporate endeavor (T. L. Taylor 2012, 19–25). As Scholz writes, "no other federation is capable of steering any regulations" (2019, 28). It is their "highly controlled and strictly managed" (Scholz 2019, 22) governance that led to Korean e-sport as we know it, including the building of stadiums solely dedicated to e-sports (T. L. Taylor 2012, 161).

KeSPA had the privilege to authorize third-party companies to broadcast on TV e-sports tournaments held on the South Korean territory. South Korean e-sports broadcast on TV was seen as a certain culmination for e-sports in other countries, as if it was a peak to reach (Scholz 2019, 25; T. L. Taylor 2018, 138). Montréal newspaper *La Presse* still used two exclamation points in 2007 when stating that Guillaume Patry's matches were broadcast on TV (Gravel 2007, S7). Traditional television was a symbol which has quickly faded now that e-sports are mainly streamed online (T. L. Taylor 2018, 142). Yet, it was strongly tied to the e-sports business model, which is dependent on two different revenue sources: sponsorship and media rights. Summerley underlines that "Both sources of income are dependent on securing a large and loyal base of spectators and institutions will move to secure this" (Summerley 2019, 10).[9]

9. This loyal base now seems gathered on Twitch and other streaming services—in South Korea, most progamers stream on AfreecaTV, which existed before Twitch (Hjorth, Na, and Huhh 2009, 252).

OnGameNet (OGN) and MBCGame were the two major TV channels licensed to organize their own "Starleagues" and to broadcast them. Both adopted the one-versus-one match as their competitive standard. The broadcasting company Orion Network (ON) Media Corporation, which owned different cable and paid television channels, organized, and broadcast *StarCraft* tournaments on their Tooniverse channel. They eventually launched their own dedicated channel—OnGameNet, renamed OGN in 2015—and their own league—the OnGameNet Starleague (OSL). OnGameNet air gaming content 24-hour a day since its launch in July 2000. The KPGA Tour was held four times in 2002–2003 and eventually formed the MBCGame StarCraft League (MSL), which was broadcast on MBCGame channel owned by Munhwa Broadcasting Corporation (MBC). The MBCGame channel used to go by other names from 2000 to 2003 and broadcast various gaming content (Jin 2020, 3737). OGN and MBCGame thus were the two main channels entirely dedicated to *StarCraft* e-sports from 2003 to 2012, broadcasting the OSL and MSL. Both could draw viewers in the millions, with OSL attracting around "3 to 4 million viewers during the 6-to-10 p.m. primetime window, and its competitor, MBC Game, [drew] 1.5 million viewers at the same time for its own league" (Jin 2010, 72; from Wallace 2007). In 2003, OGN launched another league, called the Proleague, which from 2005 onwards would be broadcast on both OGN and MBCGame channels. Players in Proleague were organized in teams: matches were still one-versus-one, but team members would swap during a series. The SKY Pro League final of 2005 reached a peak in attendance: 120,000 spectators watched the final between SK Telecom T1 and KTF MagicNs in an outdoor stadium in Busan (Jin 2010, 72).

KeSPA played the role of a middle agent between the top-down control exercised by Blizzard and the organic force that Korean players represented. While KeSPA did promote and to a certain extent establish e-sports on the Korean peninsula, the control they tried to maintain on *StarCraft* was untenable. In 2007, they wanted to sell the broadcasting rights of Proleague, rather than let OGN and MBCGame broadcast it freely, even though they were its organizers; they eventually reached an agreement (TeamLiquid 2021b). These broadcasting rights were central in their conflict with Blizzard: the American company was not particularly enthusiastic about the fact that KeSPA would use their intellectual property in tournaments and sell rights to broadcast their game (T. L. Taylor 2012, 162–3). KeSPA did not see themselves as "merely asking permission from developers for use of their game but argues that it

actually provides value back out to developers through authorizing and legitimizing particular titles, a kind of KeSPA stamp of approval" (2012, 168). Blizzard saw this as an infringement of their own rights. Still, in 2007 Blizzard began negotiating with KeSPA for the broadcasting rights of the upcoming *StarCraft II*—they announced it that same year in South Korea during the "Blizzard World Wide Invitational." Even though they did not meddle directly in Korean e-sports for *StarCraft*, they realized that some value was added to their own intellectual property and that this value was not going into their pockets. Most game developers now know the value of competitive play and have been enforcing their "ownership" more explicitly since that era.

If Battle.net was the innovation that gave Blizzard control over *StarCraft*'s online value (see chapter 3, "Multiplayer Infrastructures"), they used it again to enforce their own ends. Battle.net was the only official way to play online, but tournaments would rather be played over Local Area Networks (LANs). Broadband connections were central for Korean gaming, but every major tournament was played over LAN to limit latency (which would mean a small delay between actions and retroactions that could be crucial to competitive play). In fact, Summerley notes that it is still a limitation 20 years later (2019, 13). Nonetheless, Blizzard decided to cut any LAN support when releasing *StarCraft II*, priorizing their control over third-party server's usage.

As Dan L. Burk notes in a report on intellectual property and e-sports, the truth is, "e-sports are always mediated by the software and video apparatus of the game" (2013, 1553). Whatever the level of involvement of Blizzard in making *StarCraft* an e-sport, it is impossible to deny that their software is core in e-sports' gameplay and mediatization. In the case of *StarCraft*, KeSPA clearly did give value back to the game itself. Even though their legitimacy or legal rights as an organization is arguable, their role in fostering the popularity of the game—and e-sports by extension—is undeniable (T. L. Taylor 2012, 161). They were a core agent to make *StarCraft* a landmark video game.

An Exclusive and Exclusionary Star System

Largely because of the infrastructure around proleagues and tournaments, South Korean players dominated *StarCraft* international tournaments in the 2000s. Christina Kelly observes that Korean e-sports, contrarily to Major League Gaming (MLG), display their casters central to the scene, in-between the competitors, so that spectators can focus on

their explanations and their reactions to the game showcased on the big screen. By opposition, MLG shows the screen upfront and the casters on the side, so "the experience of someone at the event and the experience of someone watching the HD stream at home were the same" (Kelly 2011, 50). As Brett Hutchins puts it, "e-sport is the product of the logic of media, communication and informations flows" (2008, 857). The game itself is not enough for e-sports; it is a show.

Korean progaming star system is clearly an extension of the same idea. *StarCraft* progamers were the first cyber-athletes to be celebrities (Jin 2010, 59–60). Being a "progamer" was not an ambiguous term to refer to someone living off their play; KeSPA used it as a specific title to be earned. To be considered "progamers," players would need to win two official competitions, and "receive a general education organized by the Korea e-Sports Association" (Jin 2010, 90). Players would need the approval of KeSPA to participate in tournaments, and their participation could be revoked.[10]

As a cultural industry, the establishment of a star system is one way to reduce risks for investors (Kerr 2006, 45). Promoting not only the matches but the players themselves creates an interest beyond the game and fosters narratives such as rivalries. But as with any star system, many are called but few are chosen. While progamers are almost exclusively men, a survey by Korea Game Industry Agency (KOGIA) reported by Larissa Hjorth, Bora Na, and Jun-Sok Huhh indicates that their fandoms are comprised of 76% of women (2009, 255). This inequity in the treatment of genders in e-sports persists. Contrarily to traditional sports, there is no official division between genders, but it still immensely favors male players on a systemic level.

The majority of the video game industry agrees that they are in a "boys' club culture" (Vysotsky and Allaway 2018, 110); Korean e-sport reflects this tendency. The absence of women in a large majority of non-gendered tournaments underlines how e-sports has, as most boys' clubs, a "non-mixity so large, extended, generalized, ordinary, that in the end, it stays unremarked" (Delvaux 2019, 12, my translation). In 2001, there were 40 women progamers, but Jin underlines that they eventually "disappeared because their skills were not competitive" (2010, 89). He

10. For example, in 2010 some progamers lost their rights to participate in KeSPA's tournaments following their participation in match-fixing schemes (Hyuncheol 2010).

argues that women were excluded for the same reason that video games themselves do not traditionally target them, quite similar to the idea that Gray underlines in *Intersectional Tech*: "the dominant culture of digital gaming dictates who is legitimate and who is not, creating conditions of real and symbolic exclusion in everyday gaming practices" (2020, 28). But Jin adds another layer: e-sports as a market bear similarities with music boys' bands, emphasizing "sexy images of male players to attract mainly female fans" (Jin 2010, 89–90). This explanation is not necessarily untrue, but I would argue that it is only a small piece of the puzzle.

The most prominent woman progamer was Seo "ToSsGirL" Ji-soo, who started as a Protoss player (thus her name) but switched to Terran early in her career. Women-only tournaments existed from at least 2003, and ToSsGirL won a lot of them: the "2003 Womens Progamer Invitational," most of the "GameTV Women's Starleague" and the "1st Ladies MSL" in 2005.[11] Women's leagues were unfortunately disbanded in 2005. Not surprisingly, in 2007, out of 763 registered progamers, there was only *three* women (Jin 2010, 89). ToSsGirL still persevered in the male-dominated starleagues. In 2008, she was the first woman winning a KeSPA-endorsed match, using an SCV rush in the second game against Modern (MickeyToss 2008). She came back in 2015 in the "SonicTV BJ Starleague" and, with the *Remastered* released, she plays more regularly in the newly established "Ladies AfreecaTV" *StarCraft* leagues in 2017. Women in e-sports are often seen as "anomalies, not the 'core' demographic" (T. L. Taylor 2018, 187), even to this day.[12]

The progamer regime and institution fostered a male-dominated environment. Observing progamers in America, Nicholas Taylor, Jen Jenson, and Suzanne de Castell note that discourses around progaming "links competitive gaming with a misogynistic (and homophobic) sports tradition" (2009, 244). One clear and explicit example is the presence of "booth babes" in e-sports events, including right beside the players themselves during Korean tournaments. But exclusion is normalized and exists in everyday life. The discipline required for progamers by their teams is like traditional sports, and they enforce this discipline by regrouping their players in "training houses." They had to follow a dense schedule of training hours a day. Although Jin underlines that "female

11. The list of her winnings is not exhaustive, but some can be found on TeamLiquid (2022b).

12. Egil Trasti Rogstad offers an extensive overview of the scientific literature on gender and e-sports (2022).

pro gamers do not undergo the rigors of team training, so several teams stopped hiring or supporting female players" (2010, 89), I strongly suspect that training as "one of the boys" would not necessarily be easy or even secure for young women.

Progamers' life was less than glamorous or rewarding in terms of money: according to Jin, most progamers did not earn more than an average salary with a 14 or 16 hours per day job (Jin 2010, 82). A few progamers could win USD $200,000 per year, but most won around $10,000 while the average income was $16,291 (Jin 2010, 91–2). Grrrr… gave a similar portrait: the "top 20 gamers would earn annual salaries from their sponsors ranging from $30,000 to $230,000 Cdn" (Davidson 2004, F3). Only the "very best in the world," BoxeR, could make a very high salary: USD $500,000 in a year. Moreover, it was a job that would mostly be over after age 25: only 5% were older (Jin 2010, 87). In fact, *StarCraft II* was used by Thompson, Blair, and Henrey to measure cognitive decline and they estimated it around 24 (2014). It is thus not unexpected that players end their career around that age. Nevertheless, and especially since top players usually continue after 24, structural reasons must not be put aside: at some point in their life, players could simply have enough of a demanding lifestyle that returns a low reward. While the risk could be somehow worth it in the 2000 decade, it became drastically less attractive as soon as KeSPA's control over e-sports sources of money declined.

The Korean model was strongly dependent on a convergence of spectatorship in one single place: broadcast television, an oligopolistic market, and a single video game. The fact that competitive play exists now in more video games than ever makes it more difficult to converge spectatorship (and, thus, money). Arguably, the stronger contender for e-sports live broadcast is Twitch, where spectators are gathering not only for e-sports but for live streaming in general rather than in stadiums or on TV channels. But Twitch is *not* a single channel where every viewer is gathered; each streamer is vying for attention and contributions from viewers. The same can be said of other streaming services like AfreecaTV or TikTok. The owners of these platforms are the main ones benefitting from e-sports and streaming revenues, not the tournament organizers, let alone the players.

In the long run, *StarCraft* would be the golden age of Korean e-sports, with a success that could not be reiterated. In 2012, MBCGame discontinued their activities while OnGameNet focused on other games. Proleague did continue for a few years, trying a hybrid formula between *StarCraft* and *StarCraft II* before switching completely to the latter. It stopped in

2016 following new match-fixing frauds and a general decrease in popularity (L. "rheeo" Chung 2016). While Korean *StarCraft* competitions still exist in 2023 through AfreecaTV, contemporary e-sports drifted apart from RTS games in general while retaining the legacy of *StarCraft* as a golden age that could not exist with the same model.

Foreseeing a Space for Virtuosity

If the interest in e-sports spectatorship is tied to a sociocultural context, it also includes what is in front of the screen. It is not to say that *StarCraft* as a game artifact was sufficient to foster e-sports; it needed a process where a certain way of playing would grow. Summerley calls this process the "institutionalization," which echoes other researchers in media studies such as André Gaudreault and Philippe Marion when they say that "a medium *is always born twice*" (2015, 107). It is the idea that a technological apparatus—say, a physical video game burned on a disk—is only a part of the apparatus we identify as a media or as a cultural activity: it is its *first* birth. At this stage, a medium usually continues established practices, such as decoding in the case of RTS games. The *second* birth comes after this process of institutionalization, when a *new* practice is being established through this apparatus: foreseeing and e-sports. Summerley refers to a similar process when discussing the establishment of e-sports in gaming culture: "Institutionalization occurs when a game's community universalizes a ruleset … that all players must abide by for competition, promotes an institutional philosophy, and propagates that game to grow its scene" (2019, 2). E-sports needed this process of institutionalization in order to emerge; they would not come from the sole "game" itself.

Some game features were not really relevant for e-sport: for instance, while a "free for all" eight-player match could be very common among gamers, e-sport chose the one-versus-one model for competition. It is because, as Huhh reminds us, e-sports is a sporting event *and* a spectator sport (2009, 106). While some two-versus-two tournaments occurred in the early years, they quickly relied only on one-versus-one matchups. One-versus-one with three different races means there are six possibilities of matchup to foresee for progamers and spectators alike—in two-versus-two there are 21 possibilities; players would have to devise strategies and remember the timings of 21 different combinations.

This choice specifically makes sense in terms of foreseeing. Game rules are so complex and difficult to master that their basic knowledge is insufficient to map the entire space of possibilities even in terms of

one-versus-one. Moreover, the e-sports spectator is privileged since they can see from both perspectives. E-sports spectatorship builds on the fact that the spectator can know what is going on and knows that they could theoretically do the same, yet they would not have thought about it early enough or would not have the sensori-motor skills to execute it.

Information asymmetry contributes to the construction of drama (Sjöblom et al. 2017, 18). In fact, it is more than information asymmetry: it is foreseeable information, akin to bluff in poker. A foreseeing match depends on how both players construct their mental game states; for instance, a ruse will induce one's opponent to anticipate a wrong state. In a standard Protoss versus Terran matchup, Protoss can take a lead in the endgame if they produce Carriers (TeamLiquid 2015b). However, building Carriers has a shadow cost: the player must build a certain number of Stargates and reduce the size of their army to make room for them (in terms of population limit). The time it takes to transition to Carriers can let Terran build enough Goliaths to counter them. Protoss must thus make sure to hide their army and make sure nothing prompts the Terran to anticipate that Carriers are coming. This is but an example of how foreseeing works in a standard Korean e-sports game.[13]

As argued earlier, the ability to anticipate is built into the game. Strategic play is based on the foreseeing of the opponent's future actions. This leads to a "psychological and probabilistic metagame" (Boluk and LeMieux 2017, 230): every player knows what can happen according to the game rules and anticipate future actions according to what is possible and what immediate and inferred actions are happening.

It is undeniable that e-sports strongly rely on a certain possibility space for virtuosity, whether it is by devising new strategies or by using efficient mechanics. For instance, under normal circumstances, three Zerglings are supposed to be enough to beat one Protoss Zealot (TeamLiquid 2023b). When Kim "Bisu" Taek-yong micromanaged his two Zealots to eliminate seven Zerglings from Lee "Jaedong" Jae-dong while keeping both of them alive, he clearly showed a virtuosity that the commentators can indicate (nevake 2010b, 12:30–12:50). E-sports viewing relies on

13. These strategies are never fixed. In the finals of the recent AfreecaTV StarLeague Season 12 in 2021, Byun "Mini" Hyun-je managed to use a strategy where Carriers are out very early in the game, breaking the metagame and making it more difficult for his opponent, the Terran Korean player Yoo "Rush" Young Jin (AfreecaTV eSports 2021).

foreseeing strategic play as well as the space opened by micromanagement virtuosity.

This space of possibilities means that playing itself is a cultural activity. Emma Witkowski and James Manning clearly state that "performances these players deliver influence other players" (2017, 3). For example, Bisu popularized a build in Protoss versus Zergs with Corsairs and Dark Templars. Corsairs would eliminate the Zerg Overlords, so that they could not detect invisible Dark Templars which would attack stealthily. This build is now fully integrated in players' repertoire. Korean e-sports had its own "history" of strategies and games "*around* the game" (Boluk and LeMieux 2016, 319).

Players have a way to play with their opponents' anticipation to make them take wrong decisions. An extravagant example of this anticipation was described by Alan Feng in his *StarCraft* course (reported in Sirlin 2009c). It happened in a game held February 2, 2007, between Korean Terran player Han "Casy" Dong Wook and Korean Zerg player Park "JulyZerg" Sung Joon during the third season of Shinhan OSL 2006 (nevake 2011b). Casy managed to deceive JulyZerg into thinking he built an expansion. One of JulyZerg's overlords almost reaches the expansion site of Casy but is repelled by a few of his marines. The overlord floats near the minerals, barely enough to see if there are any workers there but not near enough to see if there is a Command Center. If Casy has a base there, JulyZerg will know that an attack is not coming soon: a base means that the army cannot be large enough to support a strong attack. It is therefore crucial information. The marines put there by Casy let JulyZerg infer that he protected his eventual second base. Casy extended the ruse further: just before sending his troops to his opponent's base, he sent a few of his workers on the mineral line to fake that they are mining there. JulyZerg thus inferred that his opponent's army is weak and will not attack. But JulyZerg is wrong: Casy does not have an expansion. The Zerg player anticipates that Casy will go for an economic lead rather than an army lead, and thus does not bother building enough Sunken Colonies to counter this early attack. He realizes his mistake in a matter of seconds, but not fast enough to reverse the steam. Casy reaches JulyZerg's base at the time the first Sunken Colony is established, and it is quickly destroyed. The Terran player wins.

The Sociocultural Context of Reception

These technical skills and strategic optimization do not mean that a tournament is not fundamentally a human activity. In their "Strategies &

Secrets" guide published as early as 1998, Bryant Fong and Bob Colayco suggest using the expression "gg" (for "good game") in the chat at the end of a match to respectfully acknowledge the opponent as victorious (1998). This "gg" will become standard etiquette in terms of sportspersonship.

In *Playing to Win*, David Sirlin compares a competitive game with a debate: every side brings their argument on the table, trying to outsmart their opponent. He insists there is a specific difference: while debates can be subjective, competitive games have a clear and unquestionable winner (Sirlin 2005, 7). This vision is not different from the agonistic ideal of Caillois ([1958] 2001, 14).

In *StarCraft*'s Korean e-sports, most if not all professional matches end with a resignation (when one of the player types "gg") rather than a "true" and "decisive" victory. Of course, "gg" is usually typed when the loser knows they cannot possibly win. Yet, there is a certain aesthetic interest in the fact that victory is mostly conceded and that players are not artificially extending the duration of games to annoy their opponent and the crowd.[14]

Contrarily to traditional sport, "fewer rules are explicitly stated in E-sports rulesets" (Summerley 2019, 4), and it shows in some cases. It seems usually sufficient to rely on game rules enforced by the hardware—supplemented by specific maps with homemade hacks, as we will see in the next chapter. Still, "manual" rules are more often than not needed to enforce some idea of the game. For example, T. L. Taylor notes the "observer bug" case: a Protoss player can post an observer—flying and invisible—over a Missile Turret during the time it is in construction and never be detected. But it is a bug considered as cheating in most Korean tournaments if used intentionally (T. L. Taylor 2012, 66–7). In the same way, Terran players could use an exploit called the "Allied mines." Their spider mines only defuse when an enemy unit comes nearby. But if the opponent is marked as an "ally" using the menus, mines will not activate. Players can thus play with this "ally/non-ally" switch to defuse them when they would be more effective. Taylor notes that the game as a software "is considered insufficient (or perhaps outdated) for the fullest realization of the game's play" (2012, 75). We could go as far as Boluk

14. The only case I spectated was in a game of *StarCraft II* between the American Protoss Alex "Neeb" Sunderhaft and the American Terran Alex "CrucialNug" Flinn, during season 2 of the WCS Challenger NA, and the commentators showed a certain sympathy for the losing player who was already an underdog (StarCraft Esports 2019).

and LeMieux and state that "for all intents and purposes metagames are the only kind of games that we play" (2017, 3). The "fullest realization of the game's play" only exists because there is a culture around it that calls for this play.

What Korean e-sports clearly shows is that gameplay does not exist in a vacuum. As an aesthetic experience, it is driven by an "aesthetic object," if we were to follow the trail of thought of literary theorist Hans Robert Jauss. But an aesthetic object can "be described only in accordance with the succession of its concretizations" (Jauss 1982, 73), that is, how its audience perceives it. The history of an aesthetic experience is the understanding of the relationship a work of art has with cultural norms throughout epochs and sociocultural contexts in which they existed, with their different audiences throughout time and space. The very different relationship *StarCraft* had in Korea than in the rest of the world shows that a work of art has a history of its own, forged through a lens specific to a sociocultural context (Hjorth and Chan 2009b, 5). E-sports "maintain popularity of games that would otherwise fade into an 'old favorite', such as *StarCraft*" (Jin and Chee 2009, 29). The Korean model of regulation and promotion of e-sports was never exported out of the country. It still showed the world how the professionalization of playing computer games was possible.

But seeing contemporary e-sports as the sole legacy of Korean e-sports is missing the point. What PC Bangs, KeSPA, and progamers showed is that the game itself is a social construct: we play *StarCraft* in a specific way because we were taught to play this way, whether by our vision of the developers' or designers' intentions, by our gaming preferences, or by habits. Korean e-sports showed that a bottom-up phenomenon could organize quickly into a top-down organization and encourage (and discourage) specific ways to play. Sociocultural apparatuses direct play as strongly as technological apparatuses: our playground as players is often constrived by them, but some cases in gaming history show that we can go beyond them.

In *StarCraft* lore, the Protoss recovered from their internal conflicts by creating what they called a "Path of Ascension" through the "Khala," which is a way to put aside their differences and unify themselves through a psychic link. But some Protoss rejected the Khala: they were the Dark Templars. Any attempt at unifying different cultural practices under an umbrella, as if everyone played within the same rules, settings, culture, conditions, etc., is not representative of what video games are all about. *StarCraft* e-sports is not a "true" version of the game, or more "pure," or "accomplished," etc. Chapter 5 will show how diverse *StarCraft* gameplay would be.

CHAPTER 5

A Distinct Purity of Essence

> Fear not her designs, for she is bound to me as intimately as any other Cerebrate. Truly, no Zerg can stray from my will, for all that you are lies wholly within me. Kerrigan is free to do as she desires.
>
> — THE OVERMIND (ZERG CAMPAIGN, MISSION 5: "THE AMERIGO")

The Power to Frame Play

If the Xel'Nagas created the Protoss with a "distinct purity of form" in mind, their Zergs would have a "distinct purity of essence," being able to absorb other species' strengths to integrate them in the swarm. The quotation from the Overmind in the excerpt at the start of this chapter metaphorically expresses my vision of *StarCraft* in video game history. When the Cerebrate Zasz questions Kerrigan's motives to unlock her own psychic abilities rather than directly serving the Swarm, the Overmind corrects him, stating that, whatever she desires, she will serve the Overmind's will for her desires are bound to him. After the fall of the Overmind, she is freed from his control and uses a Zerg brood to her own ends. In *StarCraft II*, we learn that the Overmind was using Kerrigan since the beginning as a secret agent to free him from the grand scheme of the Xel'Nagas. Of course, it would be quite a stretch for us to believe that Blizzard had already planned in 1998 that the Overmind was cleverly manipulating the Xel'Nagas by brooding a psionic champion with her own agency. They most probably revisited their own story to fit their new narrative needs.

In this metaphor, Blizzard is the Overmind calmly claiming it does not fear its users' "designs" yet trying to control its creation, through software or legal means. Kerrigan represents the users, abducted by the Overmind and seduced by their new powers, while planning their own path and taking every possible occasion to take control of the galaxy/playing field. Blizzard rewrote its own history when it claimed that e-sports was what *StarCraft* was all along. That lack of control showed quite early in the history of the game; as we will see in this chapter, Korean e-sports is but one example. Play finds a way.

One of my strongest moments with *StarCraft* around its release date was not related to competitive play at all. At the end of the 1990s, Internet access was not widespread. It was a common activity as teens to gather around a computer and to "go online." Being online was an activity we would do together: we would create our own websites (on *StarCraft*, among other popular culture themes) and would chat with strangers and neighbors on online servers through mIRC or Palace. Playing *StarCraft* was one of many options, but we were more interested in creating maps than playing games, especially since it was easier with only one computer. As with any creative work, the best way to learn was to mimic from the best. That is how I remember that we were bored and tried to figure out what to do next, before one of my friends casually says: "Okay, so… Let's go modify Kyprion."

"Kyprion Pact" was a *StarCraft* map that could be best described as a role-playing game (RPG) within the *StarCraft* engine. Instead of having a whole base to manage, players start with two units (called "souls") and must choose an alignment for each of them (good, neutral, or evil), which will morph them into a specific unit. As in a RPG, each fight they will do with these units will give them experience points, and the player can upgrade their units using those points. Since there is no built-in mechanics to upgrade a single unit—contrary to the *Warcraft III* heroes, for instance—the systems of the campaign editor were cleverly used. The player had to move their units to a specifically identified building to replace them by more powerful units as soon as they entered a trigger box, provided the player had enough experience points (which used an integrated score system). Before I had a home Internet connection and since USB ports were not very common, I had to save the map on a 3½ inch floppy disk to play it at home.[1]

1. Anecdotally, my own custom maps are still on the PC my family had, which barely works today (but worked enough to make the cover of the book you are

What was special about Kyprion is that it was impossible to open it through the campaign editor. Its creator, Vinzalf—who borrowed their name from an *Ogre Battle* (Quest Corporation 1993) character—used a third-party application to hack the map editor and "unlock" specific features. My friend was tech-savvy enough to know this application so that we could experiment with modifying Kyprion and getting another "version" of the game.

StarCraft plays a major role not only in the decoding and foreseeing paradigms, but also in what could be framed as the cultural series of amateur game design. Level-making in games was becoming more and more common, from custom wargame rules in *Wargame Construction Set* (Strategic Simulations, Inc. 1986) to platform levels for *Lode Runner: The Legend Returns* (Presage Software 1994). Even game-making tools were slowly becoming more popular, such as RPG Maker 95, which was fan-translated in English from its original Japanese version. The campaign editor was one tool among others so that players could create their own game.

Following Melanie Swalwell, the very idea that a game is a fixed object producing a fixed aesthetic experience is recent. Swalwell insists on the fact that "rather than being the exception, variation was the norm in 1980s game culture" (2017, 229). There were a lot of variations of each game, depending on the computer you were playing on. The video game industry established the very idea that the games they make are the objects through which you should have fun. As Boluk and LeMieux writes, video games foster "an affective economy privatized within an industry designed from the ground up to capture and mobilize desire" (2017, 227). To put it simply: game companies claim that their software are the best tools to play and drive the players' desire towards their next release. But players can have the last word in this dialectical confrontation.

StarCraft is one of the most prominent games that is also a "game engine" or, as Henry Lowood would call it, a "War Engine" (2016, 94). As wargaming made the transition to PC games, the activity became less flexible and less prone to design changes that would suit a specific community (2016, 103). While I seem to insist on the fact that *StarCraft* is an intensification of the real-time strategy (RTS) tropes in video games, it

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reading!). They are difficult to retrieve even for the enthusiastic researcher I am, since it does not have a USB port nor a CD burner, and 3½ floppy disk readers are not very common in contemporary PCs. In terms of gaming archives, we must be aware that most custom maps are lost forever.

offered a versatile campaign editor which would foster diverse amateur game design initiatives. *Warcraft III* would follow this legacy and spawned the original *Dota* through this path. The versatility of the campaign editor was one of its points of interest. Playing *not* competitively was not only very common in 1998, but it was arguably the main way to play the game thanks to the diversity of maps built in the editor. If Bonenfant states that games need a certain "space of appropriation" created by the distance from which one figures out a meaningful way to play (2015, 80), it was clearly not enough for fans to stay nicely within the borders established by the software; they had to use third-party tools to take control of their playfield. This chapter will argue that *StarCraft* was at the center of a culture of bricolage that led to a whole set of gameplay practices, including, of course, but not exclusively, e-sports.

Custom Games

In *Warcraft*, in 1994, "Custom Games" were aptly named: players would define how many units they would start with and would choose their topographical settings in a small set of predefined maps. There was also a second executable, "WarEdit.exe," which would let players edit unit statistics. Other RTS games could randomize maps according to specific settings: *Age of Empires* had different models ("Small Islands," "Continent," etc.) and topographical elements would be procedurally generated at each play. In *StarCraft*, custom games use pre-created maps, and the player has the choice of the exact game mode. Either they would go for "Melee" or one of its derivatives, else they could choose "Use Map Settings" (henceforth UMS). UMS would retain everything that has been designed in the map editor and would be needed for campaign maps or mini-games. Melee would play by standard rules with a constant set of starting units.

Even maps suited for melee games and their derivatives had a lot of different features that changed strategic habits. The first on the list of available maps for melee games—"(2) Bottleneck.scm"[2]—is a good example of how map design was not really adapted to competitive play. Each starting position has seven mineral patches filled with 1,500 minerals, and had three entrances, one of them being on the lower ground of a ramp. Moreover, the expansion spots are so far from the first base and with only five or six mineral patches, making them very difficult

2. Every Blizzard map was named with the number of players in parenthesis before its actual name.

to defend. Artosis recently made fun of the included map "(5) Diablo.scm" on his YouTube channel, dubbing it as "the Worst StarCraft Map" (ArtosisTV 2020), since even what is considered some basic features in the game are not there, such as the normal mining distance.

Maps included with *Brood War* were not necessarily better. "(8) Dark Continent.scx" was an eight-player map with a lot of choke points through bridges and ramps. If two starting positions are on a high ground with a ramp as a choke point, some starting positions have two or even three entrances to defend with choke points far from each other. This is clearly not a map that could be considered "balanced," where every player has the same initial chances (see chapter 3). Even one of the most iconic maps of the time, "(8) The Hunters.scm," was not entirely balanced in that regard, since some starting positions shared their expansion sites and others did not.

Of course, not every map was "meant to" be a competitive map: playing a "Free For All" game on an "unbalanced" map can have some flavor. Some maps had unique twists to change strategies: the more common were "island maps," where it is necessary to move your troops through transport units to reach your opponent or, in some cases, to leave your own base.

However, Blizzard identified "Ladder" maps specifically meant to play competitively. Even among these maps, they were quite a lot of variation: "(6) Acropolis.scm" has no easily accessible expansion spot, and "(4) Ashrigo.scm" is an island map. One of the ladder maps, "(4) Lost Temple.scm," would establish a standard in map-making. Although it was not completely equal in terms of starting positions, some specific features of this map would be retained in most competitive maps. Players in this case had an iterative role in playtesting different dispositions for competitive play. It is a case where "collective intelligence" (Jenkins [2006] 2008, 4) played a key role: using the tools a company provided, players as a group began to identify some maps as more interesting than others and a new player would encounter them more often online, without necessarily choosing them themselves. Only repeated play could indicate that "Lost Temple" and "The Hunters" would be fan-favorites; they were not more visible or promoted than any other map initially, and newcomers today would not know that they are "more representative" of competitive *StarCraft* play.

"Use Map Settings" mode maps would be even more eclectic. Some UMS maps come with the game and act as showcases of what can be done in the editor. Playing in UMS mode could mean very different gameplay practices: the map could be a "mini-game" using its own rules, or part of a fan-made campaign downloaded online.

Although we tend to remember *Brood War* as the sole expansion set, two other expansions were officially authorized by Blizzard but not developed in-house. The generic sci-fi setting closely inspired by other franchises such as *Starship Troopers* and *Warhammer 40,000* would leave open collaboration with third-party developers with release dates very close to the one of the original game. As such, Aztech New Media developed *Insurrection: Campaign for StarCraft* and Stardock Systems developed *Retribution: Authorized Add-On for StarCraft*, both released in 1998. They received mostly bad reviews. If *Génération 4* is relatively enthusiastic about *Insurrection* (Claveau 1998), *GameSpot* qualifies the add-on as a "hasty and unprofessional single- and multiplayer supplement" (Kasavin 1998e), which is at most considered as at the same quality as any maps and campaigns one can find online for free.

Since *StarCraft* does not redefine science fiction and space worlds, players can easily use existing tropes to fill the gaps and have "enough of a sense of a world's completeness to keep them from being distracted from following the narrative" (Wolf 2012, 132). By extension, the stereotypes upon which the *StarCraft* universe was built let a lot of space for authors to create warfare stories within it. There will always be a new planet out there where some action can take place. In fact, the *StarCraft* universe was adapted in more paratexts: novels (ex: Grubb 2004) and mangas such as the *Frontline* series published by Tokyopop and written by various authors (ex: Elder et al. 2008). In the same way the *Warcraft* universe would be developed in *World of Warcraft* and tentatively expanded in the abandoned *Warcraft Adventures* project, Blizzard planned a spin-off: the third-person shooter stealth game *StarCraft: Ghost*. They developed the project for a certain time before cancelling it.[3]

Blizzard did not give *Insurrection* and *Retribution* many chances to succeed. With the *Brood War* expansion installed, at the beginning of each game session the player had to select if they wanted to play with original game rules and campaigns or with the new units. But that was not the case for *Insurrection* and *Retribution*. Most reviews point out the clumsiness of having to select the missions without any front-end interface, as in fan-made campaigns (Atkin 1998, 284). This maneuver could be intentional on Blizzard's part: by mandating third-party companies to design add-ons

3. In 2001, Blizzard planned to "eventually get back into console development" (Morhaime, quoted in Blevins 2001). *StarCraft: Ghost* shows how flexible the fictional universe can be but how a focused marketing strategy was a more secure choice that ultimately paid off. Blizzard also abandoned another *StarCraft* shooter project as late as 2019 (Chalk 2019).

to be distributed as any other custom maps, *Insurrection* and *Retribution* serve as showcases of how a home-made campaign can look as "professional" by dumbing down the expectations. They would still retain control of what could be done with their games: they won a case against Microstar for an unofficial extension, *Stellar Forces* (IGN Staff [1998] 2012).

The base game was released with a custom campaign not very different from *Insurrection* or *Retribution*, albeit very short and less polished since there were no recorded dialogs. "Enslavers" tells a story where every protagonist uses a generic "hero" unit available in the map editor, but with the same sprite and voice as a normal unit. There are different possible objectives unlocking new missions, but since there is no frontend as the original campaigns, the player could easily skip some missions and load the one they were interested in upfront.

Included with the base game, "Wakka Wakka" is one example of the possibilities of the campaign editor. "Wakka Wakka" is an adaptation of *Pac-Man* (Namco 1980). The player controls one probe—representing Pac-Man—and navigates a maze wherein lay four Infested Terrans—representing the ghosts—ready to explode when they collide with it. Each unit is a standard *StarCraft* unit and is controlled in the same way. Yet, the units play a different role in this map. Small dots are represented by flags, and big dots by psi emitters; these are placeholders used in the "Capture the flag" mode and in the campaign, respectively. They give points to Pac-Man when they are reached. Each time the Pac-Man is destroyed by the ghosts, they switch team. The player with the most points at the end of a fixed number of turns wins the game.

In the months following the release of their game, up to April 2001, Blizzard released "Maps of the Month," which would be both Melee and UMS maps. They also released a new version of their "Enslavers" campaign online. But even this new official Blizzard campaign was not easily installed: "To have these levels run properly, they must BOTH be placed in the Campaign Folder in your StarCraft/Maps/ directory. When asked if you want to overwrite the (1)Episode02.scx placeholder map, answer 'Yes'." (*Battle.net* 1999). Still, with these maps, Blizzard showcased the possibilities of its editor.

Campaign Editor

The "campaign editor" was more complex than most map editors in the 1990s. It was not "built right into the main game" contrary to what was announced initially (Udell 1997). It was a "campaign" editor in the sense

that players could create campaigns by linking different maps together. Most map editors were clearly limited in terms of scope. For instance, in *Warcraft II* and *Age of Empires*, every user-created map had to follow the standard mission objectives: eliminate every enemy unit. *StarCraft* used a "trigger" system to drive map-making in terms of mission objectives and narrative: it would trigger certain actions if conditions were met (bringing a unit to a specific zone, having a certain number of resources, etc.). The winning conditions could thus be changed.

As praised in a review, the campaign editor "is the very best make-your-own game interface ever made" (J. Shaw 1998). If a player had a microphone, they could add their voice in wave files and make "spoken introductions" (Dulin 1998) in mission briefings as in campaign maps.[4] Most game units and buildings were available, and their standard statistics could be changed. But the trigger system was very new: it could create complex "cause-and-effect statements," even using regions "to specify actions that should happen to specific areas on the map" (Marceau n.d.).

Without changing anything in the code as some hacks would do, the campaign editor could change playing habits, encouraged by the game infrastructure itself. A certain freedom for players through the game is thus anticipated. These maps were dubbed "extra little StarCraft games" by *Computer Gaming World* (Coffey 1998, 169). Custom UMS maps were created to echo popular culture universes or other games: *The Simpsons*, *South Park*, *Civilization*, *Counter-Strike*, *Starship Troopers*, *The Lord of the Rings*, etc. A Zealot would play the role of Aragorn, while a High Templar would be Gandalf. Most of these maps were only playable in multiplayer (LAN or on Battle.net). New game maps could be downloaded directly when joining a multiplayer game online. They could thus easily spread if they were appreciated. Campaigns, comprised of several maps, were seldom shared, since, contrary to individual maps, they had to be downloaded from an external website.

Map editing is a clear example of a "co-creation" between developers and users (T. L. Taylor 2012, 160). Maps could easily be modified by anyone, whether they are maps included with the base game or downloaded through Battle.net. One of the most popular maps was simply a modification of an existing map that changed the gameplay significantly: "The Hunters" was overhauled into numerous variants of "The Hunters with Much Money," where every starting position had several

4. It was not often the case in maps shared online, probably since audio files are quite data-heavy compared to the standard in 1998.

resources sufficient for most skirmish, so that expanding was not necessary. It was very commonly played—probably more than the "no rush" games, although it is difficult to estimate this. It led Blizzard to release their own version of the map, "(8)Big Game Hunters.scm," which was not as extravagant as most fan versions. These changes were encouraged by Blizzard, "but only within limited options presented by the Campaign Editor" (Johnson 2009, 54). These "limited options" would not prove to be enough for fans, especially for the emergence of competitive play.

Game Hacks for Competitive Play

Different applications were released to change the game rules and were shared online through different websites such as Camelot Systems and StarEdit Network. StarDraft was the earliest of them (Johnson 2009, 55) and the one I personally used. It would create a specific "patch" which could then be used to edit either the game itself or the campaign editor. Patching the game could lead to amusing results with minor tweaking: for instance, Terran Firebats could have a Protoss shield and a ranged attack that could target air units, or Ultralisks could use Psionic Storm's High Templar ability.

Some patches for the game were aspiring "total conversions" mods, which means that their aim was to replace most if not all game sprites to change the overall experience. In the original campaign editor, game sprites could not be changed; it needed the development of hacks. As Derek Johnson notes, to push the limits of the editor, "fan programmers had to first develop tools to access the game engine hidden by corporate programmers" (2009, 54). Johnson documents his own experience in making a mod based on another media franchise, called *Star Trek: Dominion War*.

StarCraft was released at a point in time where "several 3-D software packages had become easy for consumers to acquire within the network information economy" (Johnson 2009, 55). The existence of these tools, now available to a wider range of users, meant that game sprites could be rendered much more easily. Contrary to a few game developers,[5] Blizzard protected their game files. Most game visual data was stored in file-types specific to Blizzard games: every sprite was enclosed in ".grp"

5. For example, *Sid Meier's Civilization II* (MPS Labs 1996) used simple GIF files to store its game assets and TXT files for game data, and let custom scenarios have specific game data files, making modding much easier.

files, which were then regrouped in a single file with the MPQ extension. Modders developed programs to decompile those files and edit them (Johnson 2009, 54).

StarDraft could also create a patch for the campaign editor, and some of these changes could be embedded directly in the map file. That is how the "Emerald Patch" was created, which led to the case of Kyprion Pact presented at the beginning of the chapter, and which would make competitive gaming very different. Its application was partly aesthetics—for instance, fonts could be colored—but it could change gameplay widely. "Locked" and "unused" units were accessible (zerg eggs, larvaes, game characters with placeholder sprites, etc.), including the effects of spells which are normally ephemeral. The number of units on a single map was unlimited. More importantly, especially for competitive play, terrain could be redrawn without any limitations whatsoever.

StarCraft is an interesting case where game hacks became normalized. I cannot stress enough how the campaign editor is a crucial part of what made the game competitive. As stated earlier, *StarCraft* was not created for high-level competition, but was flexible enough for the emergence of competitive play. At some point in time, most if not all competitive maps had some features that already existed on "Lost Temple": (1) a terrain as symmetrical as possible; (2) eight or nine mineral patches at every main base, located at the same distance from the main building; (3) a small choke point at the entrance of every main base; (4) an expansion site immediately beside each main base; (5) another choke point, usually larger, at the entrance of the second base; and (6) a wide space in the middle.[6]

When Kook "TheBOy" Ki Bong plays against Choi "Freemura" Jin Woo during the "1999 Tooniverse Progamer Korea Open" on Lost Temple (nevake 2011a), strategies were very different than what they are today. Rather than taking one or two fast expansions and protecting them at a choke point, both Zerg players stay on one base until they reach flying units in their tech tree.

When a map feature such as a choke point entrance is normalized, strategic habits become more reliable from game to game. For instance, the "Forge Fast Expand" build order for Protoss, which implies a very early expansion defended by one or two cannons, must be made on

6. I must add that I might miss some key features here, since the metagame has been so inscribed in strategic habits that it is often difficult to see them clearly.

Fig. 15. A wall on "Destination"

maps with a defendable expansion site. The fact that these map characteristics became the norm means players could refine their build orders and practice them as a routine, knowing they will be useful whatever map is chosen for a tournament. Building a wall in general and as fast as possible is necessary especially for Terran and Protoss to counter Zerg rushes. Maps have very specific ways to efficiently wall their main base or their expansion site (Fig. 15) that fans document (see, for example, TeamLiquid 2022a).

However, "Lost Temple" had clear limitations linked to the map editor. Using game hacks, map makers could thus expand the game engine's possibilities, using new feats that helped to normalize game strategies in tournaments and eventually forge game conventions. All these unauthorized features now have an authorized equivalent in *StarCraft II*, showing that its persistent legacy is not only in the developers' hands.

The first feature is one of usability to some extent: map makers began to create "observer" versions of competitive maps. E-sports needed to have an "observer" player, a player who sees what every other player in the game can see, so that commentators can have a global vision and share it in video. T. L. Taylor notes that it has always been something that e-sports producers wanted to implement (2018, 158). Although they used

Fig. 16. The ramp is facing the player's point-of-view

standard game rules, e-sports maps were played in "Use Map Settings" for these observer players.

As stated earlier (see chapter 1, "I know it's not 3D"), *StarCraft* is not in 3D, even if it mimics heights with cliffs and ramps. The problem for game balance is that cliffs do not have the same height depending on if they are presented in a frontal view or from the top. As such, Blizzard decided that there would not be any ramp on a "narrow" cliff; they would only be possible when the cliff is directly facing the viewer's point-of-view (see Fig. 16).

However, since every tile can be used without limitations in hacked versions of the campaign editor, map makers began to integrate ramp tiles to make them from both sides (see Fig. 15, on top-left). A player starting on a bottom position could have a ramp facing the "top" of the map to have an overall mirrored map, which does not make sense in terms of visual perspective, but clearly makes more sense in terms of gaming.

These ramp tiles were also used to create wider ramps and "ridges." In "Heartbreak Ridge," for example, the central part of the map has "two-sided cliffs," which blocks the vision for game units near it and can

Fig. 17. Ridges on "Heartbreak Ridge" that does not really fit together visually, especially at the bottom

give a very narrow high ground position. The art of these cliffs does not really fit together visually (see Fig. 17). These cliffs and ridges are done automatically in the *StarCraft II* editor, and some game assets—such as high grass or smoke—were created specifically to block vision.

Competitive maps also introduced "neutral" units and buildings; they are on the map at the beginning of the game. For instance, the map "Plasma" has Zerg eggs disposed in lanes to block certain passages until the players invest the time to destroy them. In other cases, it is simply a neutral building to be destroyed. They were "replaced" by "destructible rocks" in *StarCraft II*. On "Colosseum," there are neutral sunken colonies that generate creep floor at the entrance of the main base, which let Zerg players build defensive buildings there without having to build a Hatchery first. On "Holy World," there is a neutral Command Center at the middle of the map, making it easier for Zerg players to infest it and create Infested Terrans.

In the hacked campaign editor, buildings could be placed everywhere, without being limited to the "grid" where they are normally placeable, nor by the terrain. On "Destination," this led to a mineral patch

placed on a ramp (see Fig. 15), which blocked normal movement except if players used a specific glitch called "sliding minerals" (TeamLiquid 2019f). This glitch made use of a programming "hack" that let workers ignore collisions with other units when they are collecting resources, in order to avoid workers getting stuck in deadlocks by mineral patches (Wyatt 2013). Using a worker unit mining the mineral patch or building near it, another unit cleverly placed would slide to the other side of the patch, which could lead to sneak attacks. While these hacks look "chaotic" in map-making, they are experiments globally shared so that they become, in some cases, normal and accepted in competitive play. As McCrea puts it, maps are "proof of the accumulated cultural capital of the community" (2009, 186): *StarCraft* map-making is different today than in 1998 because the community fed itself to know what is a better map. Competitive maps created with these hacks and used during the golden age of Korean e-sports were still officially used by Blizzard on the *Remastered* ladder.

Playbour and the Negotiation of a Meaningful Game

Although these hacks were more "seriously" implemented in competitive maps, they were of course also used more "playfully." The standard "Hunters with Much Money" stated earlier morphed into the "Fastest Possible Map" (and other derivatives). On this map, in a single location, a huge number of mineral patches were stacked together so that workers could mine them without having to move at all (Fig. 18).

Johnson suggests that *StarCraft* was released in a moment in history when "computer networks not only altered patterns of collective consumption but also enabled the development and distribution of tools to challenge corporate control over culture" (2009, 53–4). The modding tools would need this specific conjuncture which, according to Benkler, was "the start of a network information economy based in the declining cost of computers, communication, and storage" (quoted in Johnson 2009, 54). Johnson notes how the emergence of instant messaging applications such as ICQ or AIM facilitated amateur work. These modding and communication tools also created the *demand* itself (2009, 57). Neither the corporations nor the players knew that a reversed ramp or a wall of Zerg eggs led to interesting play; the possibility to add them on a map widened the space of appropriation. These examples show that play is not controlled by corporations, whether they are the original company that created the game or an association trying to regulate competitive play.

Fig. 18. “Fastest Possible Map”

Corporations would often benefit commercially from the free work of gamers, most notably by integrating successful maps or mods in their own distribution channels (Johnson 2009, 52). In a total change of mind compared to its commercial strategy during the 2000s, Blizzard officially stopped supporting its own editor in 2019 to endorse the last in the series of hacked campaign editors: ScmDraft 2 (Sherman 2019). Map-making in general is the most common and accepted example of “playbour,” to use the now common expression popularized by Julian Kücklich (2005): leisury activities are monetized by their owners. Not only is a map deemed successful through its various iterations by the gaming community—even Blizzard’s official ladder uses them—but the hacks themselves are reclaimed by the company, which then has the audacity or naïveté to say that the game is “exactly as it always has been,” as stated in the introduction of this book.

While it should be clear by now that the campaign editor was foundational in the intensification of RTS tropes, one must not forget how it was important in a diversity of play types. Of course, there was a tendency to use the editor to create casual mini-games or amusing RPGs. But the campaign editor also contributed to the establishment of at least two different game genres: tower defense games and MOBA (Multiplayer

Online Battle Arena) games. In tower defense games, the player must quickly build defenses to be prepared to repel waves of enemy attacks. MOBA games are strategy games where two teams of players compete, each player controlling a character that grows in power throughout a single match. *League of Legends* (Riot Games 2009) and *Dota 2* (Valve Corporation 2013) are the two most popular games in the genre. These genres are the very heirs of the decoding and the foreseeing paradigms—tower defense is based on decoding patterns and anticipating the AI, while MOBA is now a foreseeing genre *par excellence*.

The tower defense genre could really have been started in *StarCraft*. One map bundled with the game was called "Defense of the Galaxy" and has a "tower defense" feeling: waves of flying enemy units come to attack a building that the player must defend with a few units. Fan-made maps such as "Starship Troopers" follows this idea: you must build Terran units with limitless resources and defend against hordes of Zerg units coming at your buildings without any tactical thoughts whatsoever. Maps such as "Turret Defense" were more literally part of the genre: the player controls an SCV and must build turrets to defend against waves of enemy flying units. The genre was also very present in other RTS custom games, especially in *Warcraft III*, and since map-making cannot easily be dated, it is difficult to say in which engine it was created first.

Tower defense is a game focused on decoding. The waves are not predictable by any game rules, but the player knows they will gradually be more difficult to handle. They must build towers, upgrade their attack or armor, even buy new units to build them faster or to help defend them. Every wave follows a pattern of attack and does not try to outsmart your positioning: they are coded to attack in very precise spots. But nothing clearly makes the waves foreseeable; it is decoding at its core.

There is one very specific reason for the campaign editor to be more suited to foreseeing development than decoding: there is no AI editor easily accessible. Thus, maps either implied very simple decoding or were multiplayer games. The map "Aeon of Strife," appearing in many variations, is probably one of the most renown maps since it is identified as an ancestor of the MOBA genre. Indeed, its most prominent features are there: a lane-based map where units fight by themselves while a "hero" unit gains upgrades and skills (Boluk and LeMieux 2017, 234–5). An adaptation of "Aeon of Strife" in *Warcraft III* would be the first "Defense of the Ancients" (shortened *Dota*), which would spawn very different versions over the years and be the core basis for *League of Legends*, *Dota 2*, and other MOBAs.

Boluk and LeMieux argue that *Dota*'s force is its "adaptability," "rather than any one specific adaptation" (Boluk and LeMieux 2017, 270); it clearly also applies even more to *StarCraft*. Both are paradigmatic examples of Henry Jenkins' "participatory culture," which imply that media producers and consumers are

> participants who interact with each other according to a new set of rules that none of us fully understands. Not all participants are created equal. Corporations—and even individual within corporate media—still exert greater power than any individual consumer or even the aggregate of consumers.
>
> (Jenkins [2006] 2008, 3)

Jenkins is right to not be too optimistic about participatory culture, since corporations most often end up with the value created by players. *Dota* has a strange history, where three different corporations (Riot, Valve, and Blizzard) would claim the legacy of the original, each for their own reasons.[7] Learning from their mistake with *StarCraft*, Blizzard clearly stated their ownership of every custom game for *StarCraft II*: "Custom Games are and shall remain the sole and exclusive property of Blizzard" (*Blizzard Entertainment* 2018). If Blizzard can capitalize from the work of its community, it is clear now that they are not the only ones behind what made it a meaningful game for such a huge number of players around the world.

7. For an extensive history of *Dota* as a game, see Boluk and LeMieux (2017, 228–42).

Conclusion: The Legacy of *StarCraft*

> In a market dependent on built-in obsolescence and newness, *StarCraft* perseveres.
>
> — DEREK JOHNSON (2009, 50)

There may be some truth in what Grant Davies, senior software engineer at Blizzard, said when he claimed that *StarCraft: Remastered* should be "exactly as it always has been" (quoted in *Korea Times* 2017). In some sense, as a Zerg larvae, it had the potential to be what it has been for all these years, and theoretically could still mutate into some form or another. But potentialities alone do not go very far, nor are they even meaningful from a pragmatic perspective. As stated in chapter 5, it is easy to say that everything was already anticipated within the frame of the game rules, but playing a video game exists way beyond any framing developers would hope to build.

While *StarCraft* is definitely a landmark in video game history for its contribution to the history of e-sports, playing the game in 1998 does not equate to playing competitively. Decoding strategy games formed the dominant paradigm of the genre in the 1990s and still are a huge part of video games in general and strategy gaming. Figuring out enemy patterns, how they respond to player's inputs, and how to optimize a character's statistics and equipment parts are all parts of a decoding culture that preceded the game. The emergence of multiplayer and online gaming let the foreseeing paradigm take a strong place in gaming culture: adapting one's deck of cards to anticipate a specific opposing deck

in a trading card game, devising tactical positionings in a team-based first-person shooter on a specific map, or mapping the opponent's possible movements on the map in *League of Legends* are practices inscribed in a foreseeing gaming culture. The role *StarCraft* played by being inscribed in the decoding paradigm while instilling a key foreseeing component was a necessary piece to form the whole competitive play puzzle.

It was not a game necessarily meant to be innovative. But as Dominic Arsenault notes, as game scholars are eager to find the "first" occurrence of many historical phenomenon, "we may overvalue innovation as a criterion of historical relevance" (2017, 194). The appropriation of the game by its playing communities established a culture of e-sports and of bricolage that led to the game we know today. T. L. Taylor warns us that video games "are far too often thought of as totalizing systems with fixed scripts, producing predictable play" (2012, 95). E-sports, MOBA, and tower defense games were not predicted, they emerged from the complexity of the gaming communities, the campaign editor(s), and different sociocultural contexts.

Studying games as cultural objects and activities means understanding their role throughout their history, not only around their release date. As Adrienne Shaw puts it: "as audiences, we do not live in magical time bubbles into which only the media from the past few years can enter" (2014, 152). *StarCraft* has a history of its own.

The Easy Mode

By its very nature, the "landmark" collection this book is in focuses on games which have a large audience and influence. The popularity of *StarCraft* as a video game and as an e-sport means that, for historians, it is relatively easy to find historical sources. I could find a lot of what we can call "gameplay archives" of this game (Dor 2015, 163), that is, every form of archive that can attest that a game has been played in a certain way. These gameplay archives manifest in the form of strategy guides, wikis, but, more importantly, video files on YouTube, game replays, etc. Studying a single game through the lens of a landmark in video game history is fruitful in terms of foreseeing the potential of different research avenues. To a certain extent, documenting a commercial success is akin to an "easy mode" in game studies. But one must start somewhere, and there is no shame in starting with an easier path.

I wrote this book through a Foucaldian historical lens that "relies on non-continuity and the inability to apprehend the historical field in

its wholeness," to quote Laine Nooney (2013, §7). Statements found in historical sources form small chunks of what can constitute a larger discourse through the examination of the rules which form them (Foucault 1969, 174). Video game history is not a single continuity in which *StarCraft* was a landmark. It played a role in different "cultural series," to use Gaudreault and Marion's expression. A cultural series is

> a creation of historians, who grasp a theme, a form of cultural know-how (a kind of entertainment, a form or representation tied to varying degrees to an apparatus or device) and try to trace and understand the changes to its identity through its various mutations.
>
> (2015, 183)

Depending on the cultural series a historian's gaze privileges, they will see a different media identity (2015, 155). Stephen C. Rea, for instance, clearly refers to "*StarCraft*-as-e-sport" (2015, 153) to differentiate it from the whole game. If one sees *StarCraft* from the lens of e-sports, they will see how influential it was towards that cultural series. But as with any historical phenomenon, it has much more than a single identity. While the history of a single game such as *StarCraft* cannot be written without what Diane Carr calls "selective omission" (2017, 715), I hope I succeeded in mirroring the complexity one video game can play in video game histories.

Gameplay archiving is not exempt from this selective gaze. What remains of *StarCraft* gameplay is not representative of common players; "power relationships" always exist in terms of archiving (Montembeault and Dor 2018). As Carl Therrien notes, "stories we share and value determine what archives privilege for preservation and documentation" (2019, 11). Since e-sport was a strong cultural phenomenon in the 2000s, it is normal that most sources will underline its importance while ignoring other practices. The method I employed here insists on first-hand accounts if possible, trying to decipher other cultural series where a game is meaningful.

The classical model of real-time strategy (RTS) games, embedding both paradigms, is now a rarity, although it is not entirely relegated to retrogaming. In recent years, Relic Entertainment won "Best Strategy Game" at Game Awards 2021 with *Age of Empires IV* and released *Company of Heroes 3* in 2023. A few game companies released interesting takes in the genre, such as *Northgard*, *Iron Harvest* (KING Art 2020), and *Crossfire: Legion* (Blackbird Interactive, 2022). One could argue that RTS games are in some form of renaissance.

These two paradigms show that developing an RTS game means developing two different games simultaneously. If two arrows can both hit their target, it is a self-imposed challenge that showed more than once how it can fail. *StarCraft II* would be one of the last games to be designed as both a decoding game—in the campaign—and a foreseeing game—in single-player skirmishes and multiplayer. E-sports would bloom in the foreseeing paradigm, and most are designed completely without a decoding part: *League of Legends*, *Dota 2*, *Counter-Strike: Global Offensive* (Valve Corporation & Hidden Path Entertainment, 2012), *Overwatch* (Blizzard, 2016), etc. After the *StarCraft* series, one paradigm proved to be enough for a game.

A Plurality of Plays

The next step is obviously to document blindsides of game research. Games that spawn a strong and traceable metagame are not the norm; they are the exception. Niche competitive games or failed attempts at professionalization would bring a refreshing perspective on the history of competitive games. The history of games departing from their developers' control as *StarCraft* showed is now a path difficult to follow, since most developers tend to exert a strong control on who plays, by which rules, and on which servers. A more horizontal playground where map making hacks can become normalized in competitive play is quite rare, even though exceptions still exist in game engines like *Roblox* (Roblox Corporation, 2005) and with mod-friendly games such as *Minecraft* (Mojang AB, 2010) and *Crusader Kings III* (Paradox Development Studio, 2020).

The very definition of competitive play has strong biases that hinder their development: misogyny and racism are unfortunately commonplace in game competitions, and "the prioritization of strategy over brute force has done little to diversify e-sports, which remains a masculine domain with a skewed gender distribution" (Zhu 2018, 231). Blizzard as a game company is far from a model in this regard. Among behavior of dismissing women's commentaries on the representation of feminine characters, they are under a lawsuit following several situations of sexual harassment and discrimination that went unchecked by their management (Zwiezen 2021).

As fans of strategy games and competitive play, watching in dismay the toxicity and hate existing in our communities is not a sufficiently ethical act. Strategy games have their fair share of criticism for how warfare

and imperialism are represented (Ford 2016; Mukherjee 2017); other modes of representation and gameplay paradigms can exist. There is still a wide angle to cover to understand strategy games and the whole field of video games which, I argue, are *depictions of power*.[1] *StarCraft* is not an exception: it depicts a relationship of power between a commander and its troops, as well as situations where this power clashes with another one—their opponents. This power is depicted through fiction *and* gameplay but exists through cultural apparatuses such as online communities and e-sports, which encourage and dismiss certain styles of play.

But this depiction of power in *StarCraft* is very classical. Gerald Voorhees and Alexandra Orlando underscore that competitive play echoes a standard neoliberal conception of gaming that "encourages players to compete to not simply win but to better themselves as players" (2018, 216). It echoes Sean "Day9" Plott's words on his famous *StarCraft* podcast, Day9TV: "be a better gamer." As with most neoliberal concepts, it reiterates standard tropes in self-improvement as individuals, reflecting a larger ideological vision.

There clearly is game research that seeks to go beyond that. In *Zones of control*, Pat Harrigan and Matthew G. Kirschenbaum (2016) regroup different texts criticizing standard depictions of war. In the edited book *Feminist War Games?* (2019), Jon Saklofske, Alyssa Arbuckle, and Jon Bath ask if a war game can be feminist. There is still a need to address strategy video games more directly, which are often eclipsed in this question. Is there a way to go beyond what Meghna Jayanth (2021) calls "imperial pleasures"? I hope the perspective of gameplay brought by this study can be exported to better understand the diversity of play that strategy video games encourage and the positive impact they can have.

1. I am working on a research project funded by the Social Sciences and Humanities Research Council (SSHRC, 2020–2023) which directly addresses this question. The goal is to analyze strategy and management video games which go beyond standard depictions of power of the genre.

Glossary

APM: Actions Per Minutes. The number of actions (clicks and key pressed) a player does in a minute.

Base: The buildings owned by one player near resource deposits, provided there is at least one building there that can collect these resources (for instance, a Command Center, a Hatchery, or a Nexus). By metonymy, it often refers to the space in a map destined to have these buildings. In a melee game, the player always starts with a main base. New bases are called expansions.

Brood War: The first *StarCraft* expansion set, and the sole that added new units.

Build order: A series of actions to undertake in a precise order at the beginning of a game, akin to openings in chess. Often shortened to "build."

Buildings (or structures): Built by workers, each have a specific purpose: to gather resources, train new units, unlock upgrades or technologies, raise population limits, etc.

Caster (or shoutcaster): Person who commentates a video game, whether it is on an amateur circuit or as a profession.

Creep: A viscous substance where Zergs must build their structures.

E-sports (or eSports): Organized video game competitions mediated for spectatorship.

Economy: The resource-collecting flow of a player at a specific moment. Depends on the number of bases a player has and the number of workers collecting them. An economic advantage means a player gets more resources at each second of the game than their opponent.

Expansion (or expand): Every base that the players does not start with. Taking an expansion is called expanding. Not to be confused with *expansion set.*

Expansion set (or expansion): An "add-on" to the base game that adds new content. Blizzard developed *Brood War* as an expansion set, while third-party companies developed *Insurrection* and *Retribution.*

Foreigner: In Korean e-sports, this refers to a player based outside South Korea, even when they are coming to South Korea to play *StarCraft* for a specific tournament or for a longer-term engagement.

Game: The play that occurs between the time a map is loaded and a player is victorious. Games are organized in matches between players and teams.

Local Area Network (LAN): A network where players can play together locally, in the same physical location. By synecdoche, it refers also to the activity of playing computer games together in the same physical location.

Macromanagement: Actions that concern game economy, unit production, upgrades, and technologies.

Map: A game file with the SCM or SCX extension that states obstacles, starting positions, etc. to play a *StarCraft* game. Some maps are made to play in "Melee" modes, others for "Use Map Settings."

Match: In a tournament or a league, a series of games between two players or two teams where one must win the highest number of games.

Mechanics: The ability to execute your decisions through game actions.

Melee: A game mode where players use the standard set of rules and are pitted against each other using the topographical elements of a map. By extension, this refers to any game which uses these set of rules, whether they are literally played in "Melee" mode or in a "Use Map Settings" reproducing these rules.

Metagame (or meta): Usually refers to the widely shared strategic habits of other players in a defined gaming community at a specific time.

Micromanagement: Actions that concern unit control and the use of special abilities.

Multitasking: The ability to switch quickly between different micromanagement and macromanagement actions.

Original game: Refers to the game prior to its first expansion set *Brood War*, or the game played without the rules and units of the expansion set.

PC Bang: In South Korea, an Internet café mainly or solely dedicated to gaming.

Progamer: A player officially endorsed by the Korean e-Sports Association to play in their leagues and tournaments.

Race: A faction in an RTS game, such as Terrans, Zergs, or Protoss in *StarCraft*.

RPG: Role playing game.

RTS: Real-time strategy.

Rush: An early attack in a strategy game.

Shoutcaster: see caster.

Structures: see buildings.

Technology: A permanent power unlockable for certain unit types that gives them a new ability. To be researched in a specific building.

Units: A game character defined by their type, which gives them specific statistics and abilities. In *StarCraft*, units are unique to each race.

Upgrade: A permanent bonus to certain unit types (melee upgrades, range upgrades, flying attack upgrades, shield upgrades, etc.). To be researched in a specific building.

Use Map Settings: A game mode which retains every element of a game map (units, buildings, triggers, etc.). Most commonly used to refer to maps where standard game rules are changed.

Wall: A disposition of game buildings meant to block a choke point. Walls are said to be full if the buildings cover the whole passage, or partial if they must be complemented by game units in key positions. The action of building a wall is called *walling*.

Workers: Each race's basic unit, whose main role is to collect resources and construct buildings. They are also used as scouts.

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