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The rebirth of U.S. console gaming

A historical comparison of Nintendo versus Sega 1983–2001

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Abstract

This master's thesis examines the rival videogame companies Nintendo and Sega in the “console wars” of the 80s and 90s, and how they developed. After Atari brought home consoles into consumer consciousness, the market crashed and was picked back up by Nintendo who revitalized the industry. The ensuing battle between Nintendo and Sega spanned two decades. Gaming history is still in its infancy, struggling with a veneer of illegitimacy, but this rivalry has been a hot area of study by gaming historians. It is clear today that Nintendo survived this war while Sega had to bail out, but only some earlier research has gone in-depth in trying to find some of the underlying intricacies as to how this happened. This thesis is an attempt to answer the questions of how and why Nintendo won and Sega lost, and it will do so using four theories as lenses throughout the various gaming literature. These sources are heavily based on interviews with industry insiders, and by comparing and contrasting these sources the hope is to illuminate a new path forward for further research. The examined period has been divided into console generations because this correlates with the console races and eras where companies won or lost. The last section includes two generations in one due to Sega's quick exit in its last generation. In the early period of the 3rd generation between 1983 and 1987, the focus is on how Nintendo rebuilt the crashed market and Sega struggled to compete against the burgeoning monopoly Nintendo was creating. In the middle period of the 4th generation between 1987 and 1993, Nintendo rose to its most powerful—yet so did Sega, late in the period. With the rivalry intensified, this period showed the climax of the battles taking place in terms of societal consequences and influence. In the last period of the 5th and 6th generations between 1993 and 2001, Nintendo continued going strong while Sega started to struggle against the new contenders entering the market, especially Sony. It is the how and why of these events, looked at through the theoretical framework, that this thesis attempts to highlight in the comparative sections and conclusion.

Foreword

My heartfelt thanks go out to my advisor Stian Bones without whom I would never have gotten started on this thesis. Without his support, this would not have been written in the first place because it was he who encouraged me to write about something I am passionate about.

I have friends gleefully awaiting my finished thesis so they can read the fascinating history behind Nintendo and Sega and my conclusions, and knowing this has been motivating for me. I have gained experience throughout this process that I never thought I would, and it taught me how to deal with a massive task over a period of months.

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Chapter 1: Introduction

1.1 Introduction

Entertainment is crucial for human development. As children, we learn to make sense of the world through expanding our imagination with play. As adults, we use play for everything from critiquing society, breaking the monotony of a dreary day, to even transforming our lives as we make it our very identity in sports and competitions. As an over 100-billion-dollar industry, videogames have blown up in popularity. They have come far from their nerdy beginnings.

The world championship in *Defense of the Ancients 2 (DotA 2)* is held by Valve Corporation and has a prize pool of 40 million dollars. While eSports has not quite reached the mountainous heights of regular sports, it is becoming more popular every year. In Finland, matches in the popular strategy game *StarCraft* are shown on national TV. In South Korea, eSports bars exist everywhere. With the zeal and excitement seen at a pub in England watching football, the big eSports celebrities have fan clubs the same way music or traditional sports icons do. All of this is *history*, waiting to be examined. In our new digitalized world, this development warrants the attention of gaming historians; gaming history is woefully understudied.

In the years before PlayStation and Xbox, and for many years in Norway, “Nintendo” was the word used to describe the gaming console in the living room. The character ‘Nils’ in the classic Norwegian TV show *Mot i Brøstet* would go upstairs with his girlfriend to “play Nintendo”. The company has been easily recognized for decades and is a global behemoth in gaming. Its role in gaming history cannot be overstated: Even the staunchest critics of Nintendo would admit that its pioneering games helped make the videogame hobby what it is today. Its role in the videogame crash of the 80s, however, is rife with controversy. In this tumultuous time for the gaming industry, a rivalry began that would last all the way until 2001. While Atari was the initial champion of videogames, the lasting legacy of Nintendo would eventually be decided in the title bout of Nintendo versus Sega.

The Sega of today is no longer as well-known as Nintendo, but it was once a highly capable hardware manufacturer. In a counterfactual reality, its innovations in gaming could perhaps have rivaled or surpassed those of Nintendo had Sega corporation not been struggling with

internal strife. In many ways, Sega helped create the videogames of today—especially early on with its excellent contributions through arcades in Japan and eventually the world. It was, after all, through the celebration of arcade machines that we would later get home consoles.

Sega's impressive fight with Nintendo in the late 80s and throughout the 90s was a race of technology and innovation. It was the rebirth of an industry that had almost died in its crib in the 80s, and it thrust videogames into the international spotlight. Today, Sony, Microsoft, and even the enormous cellphone companies all want to take a leading role in gaming. I wish to analyze the original battle of giants in this industry and shine a light on the development of these historically important central actors.

1.2 Thesis question / research questions

With gaming history being a bit of an understudied area, and with me being a huge fan of Nintendo and Sega back in the day, I find it important to contribute to the study of these companies and the complexities of their struggle for the gaming throne. Atari is relevant as the progenitor of the format and so will be included in the historical background, but most of this thesis will be about the same topic: Nintendo won over Sega in the videogame war of the 80s and 90s. How did they do it? This question is broad, and so in order to answer it more systematically, I will limit my analysis to the theoretical framework in [section 1.3](#). The question can be considered the same coin with two faces:

- 1) How did Nintendo win the war? It was clear by the early 2000s that Nintendo had beaten their old nemesis, and Nintendo had to then fight a new contender in Sony. It is important to examine the many factors and tendencies that drove this development throughout the 80s and 90s in the primary markets of the US, Japan, and Europe.
- 2) How did Sega lose the war? The hip and cool Sega once overtook Nintendo in the enormous US market. But while Nintendo often seemed like a well-oiled machine, Sega would frequently chug along, grinding gears the whole way, hampered by its own dilapidated inner workings. Sega was a company plagued by problems within, and its rich history tells a story that can help solve the mystery of their fall from grace.

1.3 Theoretical framework

Many books can be (and have been) written about Nintendo's and Sega's battles. In order to give a concise answer for how Nintendo won the console war and how Sega lost it, there are several relevant categories that I think are at the core of my comparative analysis and research. Even if not specifically mentioned all the time, these underpin most of the analysis.

1.3.1 Nintendo's focus on family-friendliness vs. Sega's counterculture.

After several ventures into other areas, Nintendo concentrated its efforts into becoming a toy company in the 70s. Targeting children with their products has since come natural to Nintendo, and, in a Disney-like fashion, they strive to keep a family-friendly image. As their official web page states: "Nintendo is for everyone".¹ While this can be dismissed as PR-speak, Nintendo's record backs them up. "Of all the major game publishers, Nintendo has always stood out as the most deliberately inclusive", Jeremy Parish writes, and he continues, "I challenge anyone to name any developer or publisher with a more expansive legacy of games friendly to people of all walks of life, regardless of age, race, gender, or skill level".² This can be analyzed in terms of how effective this marketing has been for Nintendo.

For Sega, inclusion was not a focus, and it is easier to argue the opposite. Sega appealed to the young and cool; they were clearly elitist in their approach. They were the hip new kid in town, and their popular mascot Sonic showed it: Sonic's blasé attitude charmed many teenagers and created a cultural divide between the "kiddy" Nintendo and the "mature" Sega. Just like the rivalries between PC and Mac—or Apple and Android—the cult-like behavior of the two camps revealed itself quickly once Sega began its advertising in earnest.

1.3.2 What role did Nintendo's monopoly play?

That Nintendo had a near-total monopoly in the videogame market near the end of the 80s is an indisputable fact. At the time, Nintendo had an enormous 98% share of the videogame market.³ After the US videogame crash of '83, Nintendo took a chance and stepped into the

¹ Nintendo of America 2021

² Parish 2014

³ Acks et al. 2020.

US market. What happened next was a giant “reform” of the market where Nintendo now acted as a gatekeeper for which games were allowed on their highly successful platform. Through license agreements, they had a “Nintendo Seal of Approval” that not only functioned as quality assurance but was an actual requirement for the game to be sold on the 8-bit Nintendo Entertainment System (NES). Additionally, around 1988, Nintendo practically owned the toy industry and could exercise power over what was allowed in stores—even if such barriers were technically illegal.

In the videogame market, a “first-party developer” is the developer who makes the platform for the games. So, for Nintendo consoles this would be Nintendo. “Second-party developer” refers to a company distinct from the main company but publishing under it. “Third-party developers” are all other companies producing games for the various consoles. In the 80s, Nintendo made third-party developers sign an exclusive licensing deal. The agreement forced studios like Squaresoft, Capcom, and Konami to make games only for the NES, and only allowed five games per year. This eventually resulted in a soft monopoly for Nintendo, and the question then becomes to what degree this monopoly contributed to their success throughout the 80s and 90s.

1.3.3 Does technology drive the development?

In an era of Facebook, Augmented Reality, and powerful GPS supercomputers in our pockets, it is an easy claim to make that new technology contributes to shaping our society. In the book *Does Technology Drive History: The Dilemma of Technological Determinism*, MIT historian Merritt Roe Smith argues that ‘technological determinism’ is “The belief in technology as a key governing force in society.”⁴ A ‘key governing force’ suggests something far stronger than simply contributing towards guiding society. On a macro level, it might seem inevitable that as new technologies are created, we are forced to adopt them for the betterment of mankind. In the realm of gaming consoles, this view likely holds true in the long run. However, an absolutist view of this robs us of our agency as a species.

For the purposes of this thesis, I will not go the absolutist route. I will not concern myself with a nomological definition of the term ‘technological determinism’, which would then

⁴ Smith & Marx 1994: 2

indicate an inevitable path forward after technology is adopted. Instead, I have a much softer approach and will examine and gauge *to what degree* technology determined the successes and failures in the console market.

1.3.4 How much of the success can be attributed to the *actors*?

The big creative and executive names in the industry undoubtedly make an impact, but how much of an impact? Can a single person—especially someone not in charge of the whole operation—truly affect the trajectory of a billion-dollar company? For both Nintendo and Sega, there are highly influential names that have come up with important innovations and made crucial executive decisions. But there are many factors outside of their control, and these people are ultimately part of something much larger than themselves. Historian Knut Kjeldstadli argues that we can look at history from an *actor* viewpoint or a *structural* viewpoint. Among the *actions*, there are: Intentional actions, which have a clear goal; habitual actions, like those inspired by tradition or culture; mass-actions, like those of a mob or even many interconnected, rational actions; and actions where the goal and means change underway.⁵ In order to stay within the scope of this thesis, I will focus on the individual, intentional actions of actors who influenced the course of history.

In order to temper this view, there is in history research the concept of “Great Man Theory”, which harkens back to Thomas Carlyle’s essay about “The Hero as Divinity”.⁶ There has been a tendency for historians throughout the ages to attribute great consequences in history to single leaders. Historians did this without, perhaps, properly considering the environment that raised them or the many smaller circumstances affecting change as well. Modern historians are typically better at this, but for any analysis of history in which influential people make an appearance, there is a lot of context to consider before making strong statements about their accomplishments.

1.4 Historiography

In the relatively tiny field of videogame history, there are plenty of sections one can focus on such as arcade games, multiplayer games, censorship, or even technological development.

⁵ Kjeldstadli 1999: 32–33

⁶ Carlyle 1840

What seems a popular area of study, however, is the console wars of the 80s and 90s between Atari, Nintendo, and Sega.

For the purposes of this thesis, Atari is merely part of the historical context. I aim to offer a more in-depth look at the processes that led to Nintendo's eventual victory and Sega's loss. As some examples, the cultural differences between Japan and the US, the creation of the ESRB due to politics and censorship, and copyright case law are all important aspects of the required context to answer my thesis questions.

1.4.1 Gaming literature

Gaming literature is a term that encompasses a lot more than just the history of consoles and the companies behind them. For example, "gamer" is a term many people identify with, and entire books can be written on just what type of gamers people are from JRPG (Japanese Role-Playing Game) fan, to visual novel enthusiast, to FPS (First-Person Shooter) gamer and beyond. As much as these other areas need future study, for my purposes I will focus on sources that relate to Sega and Nintendo's fight.

Perhaps my most important study is the highly regarded *The Ultimate History of Video Games: From Pong to Pokemon—The Story Behind the Craze That Touched Our Lives and Changed the World* by gaming historian Steven L. Kent.⁷ Using over 500 interviews of industry insiders, *Ultimate History* goes over arguably the most important events in gaming history in a detailed manner. It covers the beginnings of Atari, the progenitor of home videogames, and it is specific about Nintendo's strategies following the videogame crash of '83. It also covers both Nintendo's and Sega's strategies throughout the 90s, while making it clear what an impact this battle had on the entertainment industry in legitimizing home videogames as a valid medium. The politics surrounding gaming are also covered through some of the senate hearings in the US. This controversial context is important because it affected Sega much more than Nintendo. While some aspects are perhaps not covered in as detailed a manner as they should be—like some of the primary actors within the game development of the two companies—the generalized wealth of knowledge that the book contains is all pertinent to this thesis.

⁷ Kent 2002

Since it is important for me to establish Nintendo as the winner of the console race, another useful book is *Game Over: How Nintendo Conquered The World* by gaming historian David Sheff.⁸ The book is a revised edition of the original from 1993, and it is closer in time to many of the events that occurred. The book includes two highly important aspects that are relevant to this thesis. First, it goes into a lot of detail about some of the essential actors within Nintendo like Shigeru Miyamoto and the engineer Gunpei Yokoi. Nintendo's long-serving president throughout the pivotal years of the 80s and 90s—Hiroshi Yamauchi—is also given the attention he deserves. Secondly, *Game Over* also gives “a fascinating look into the Japanese way of doing business”, as the *L.A. Daily News* so delicately put it.⁹

In fact, fellow author Jeremy Parish states that the book is crucial for this in-depth look at Nintendo's inner workings:

Game Over has proven over the years to be somewhat bulletproof. Nintendo has one of the most guarded corporate cultures in the world, and Sheff enjoyed unprecedented (and unduplicated) access to people who could peel back the layers of secrecy surrounding the company's history. That seems unlikely to change in the future, as Nintendo continues to insulate itself and we lose key figures who lived through Nintendo's formative years. Case in point: Since the book's initial printing, the two men who were arguably the most central minds behind Nintendo's evolution into a video game powerhouse, designer Gunpei Yokoi and long-time NCL President Hiroshi Yamauchi, have passed away. As a result, nearly every look back at Nintendo's history published since 1993 has drawn heavily on Sheff's interviews.¹⁰

Nintendo believed in itself so strongly that they had a reputation for being arrogant. This perception was compounded by the fact that Nintendo was also a company that liked to do things differently compared to many other Japanese companies, which is a rarity in a country as homogenized as Japan. This book is a great source for the specific sections mentioned, but it is also not without its drawbacks. The book was written in the middle of the console wars, not at the end of it (early 2000), and so it is inherently a limited source.

Another good contribution is the book *Console Wars: Sega vs Nintendo—and the Battle that Defined a Generation* by author Blake Harris.¹¹ In the book, Harris has a narrower focus on Sega. While Harris provides a fairly unbiased take, it could be argued that the book is too

⁸ Sheff 1994

⁹ L.A. Daily News as cited in Sheff 1994: introduction

¹⁰ Parish 2015

¹¹ Harris 2014

kind towards Tom Kalinske, president of Sega of America from 1990 to 1996. Kalinske is a friend of Harris', and the book very heavily makes him out to be the lone hero fighting Sega of Japan. There are other sources corroborating this angle, however, so it is still credible. The book's narrative is one of the underdog Sega battling the behemoth Nintendo, challenging their monopoly in the videogame market. Based on over 200 interviews of former Nintendo and Sega employees, *Console Wars* gives us a bit of a "small history" perspective in the otherwise grand history of Mario versus Sonic. This book, for the purposes of this text, is particularly good for examining Sega through many of the qualitative sources as it is heavy on dialogue.

The main source on Sega, however, is *Service Games: The Rise and Fall of SEGA: Enhanced Edition* by gaming historian Sam Pettus.¹² The analyses of all the factors relevant to Sega's eventual downfall are all thoroughly explored through many years of research. The technical information is very thorough. It explains some of the techniques used by developers in order to bypass the technical limitations in the 80s and 90s. Creative designers could expand the color palette, create a pseudo-3D effect through parallax angling, and create a moving screen that follows the player. Through the book, we learn that both Nintendo and Sega excelled in having innovative game developers break through the tech barriers, and it was a big part of the reason why these two were the leaders in the industry. The book explains Sega's arcade history, and it proves what capable game designers they were even before they entered the hardware market. Even today we see such classic arcade games as *Sega Rally 2* in arcades around the world. Similar to *Console Wars*, the book *Service Games* is a narratively colloquial take. It goes through Sega's controversial inner history with a sense of dismay that only a true Sega fan could feel from seeing his favorite company mismanaged. As such, even though it heavily criticizes the Japanese leadership at Sega, *Service Games* comes off as a bit biased. Once, for example, Sam Pettus went to a Best Buy to buy a *second* Sega Dreamcast console for himself because his nephew kept using it, and in the process he "had completely forgotten about the U.S. PlayStation 2 launch."¹³ Pettus clearly does not hide his love for Sega, but that passion is also why this source is so meticulous.

¹² Pettus et al. 2013

¹³ Pettus et al. 2013: 508

There is also the 2020 Netflix documentary series *High Score*, which covers various parts of the subject matter in this thesis. In an interview with *High Score* series creators France Costrel and Melissa Wood, reporter Ashlie Stevens found that they “set out to reveal the diverse, unsung heroes in video game history.”¹⁴ As a supplementary source, this documentary provides interesting details from the Nintendo vs. Sega era with fresh interviews of some of the industry insiders like Tom Kalinske. Perhaps most importantly for determining how the console wars were won, the series gives visual evidence for the cult-like behavior of the opposing teams of Nintendo and Sega.

1.5 Sources and methodology

I have played Nintendo and Sega games my entire life. Not only have I played through thousands of games, I have also been taking an active part in the gaming community for decades; the insight I have obtained is helpful in both fact-checking information and expanding upon knowledge with relevant reflections. That said, my perspective is that of someone on the outside. To find the secret formulae of Nintendo and Sega, we need insider information.

Through the 70s and 80s, the esoteric new videogame market was a venture into undiscovered territory. The paradigms at the time are of utmost importance in seeing how things played out the way they did in terms of both successes and failures. Many of the most crucial sources for videogame history all heavily utilize interviews with industry insiders as a way of shining a light on the developments. Remembering my thesis questions, two aspects are important to explore:

- 1) These books have many interviews that will help answer my thesis questions; we need to know that these interviews can be trusted to contain reliable information.
- 2) My thesis questions are strongly reliant on *comparing and contrasting* Nintendo versus Sega.

¹⁴ Stevens 2020

1.5.1 Reliability and validity

Reliability and validity are scientific terms which are more difficult to apply in the softer sciences. Reliability deals with how trustworthy and reproducible an examination is, and validity deals with how accurate an examination is in terms of measuring what it is supposed to measure. In qualitative research, such as in-depth interviews, Professor Tove Thagaard argues for using different terms altogether: Credibility, verifiability, and transferability.¹⁵

1.5.1.1 Credibility

Credibility means that the research and source are trustworthy. For the researcher, this means making it clear that both the source gathering and production have been done in a professional, ethical manner.¹⁶ The researcher should also strive to be as objective and unbiased as possible. While true objectivity is impossible, acknowledging one's own biases and keeping an open mind will allow for more informed reasoning. For oral history as well, the source should be unbiased. In the case of these high-profile interviews, the leaders of Sega and Nintendo are more likely to put forth a PR-friendly image. Chiefly Nintendo, with its huge focus on being family-friendly, will have executives carefully choosing their words so as not to damage the company optics. With leaders more likely to make claims that are positive and favorable for their own company, it is up to the researcher to take such bias into account.

Additionally, these interviews will mostly be *primary sources*, meaning they are directly connected to the subject matter. These people lived and breathed the history that is being examined. Historian Knut Kjeldstadli writes that there are three “rules of thumb” for primary sources: Inner consistency; interplay between sources; and general trustworthiness in a broader context within the sciences.¹⁷ The most important of these—and most important method of proof in general—is the interplay between sources. Intersubjectivity is how the world progresses: peer-review in science is the final arbiter for whether results can be trusted.

¹⁵ Thagaard 2013: 178–184; Ryen 2002

¹⁶ Thagaard 2013: 178

¹⁷ Kjeldstadli 1999: 181

For example, if multiple interviewees all say that Nintendo has a very insular culture, that bolsters not only the credibility of those statements, but also the verifiability.

1.5.1.2 Verifiability

Verifiability means that the research is confirmable through other methods and sources. For verifiability, it is the interpretation of the result that is the most important aspect. As such, to secure a high verifiability, the researcher should thoroughly document and critically examine their interpretations of a source.¹⁸ As stated, a high level of concordance throughout many sources is the best way to bolster verifiability. Another way is to replicate the research and get similar results, but in a qualitative study this is an unrealistic goal.

1.5.1.3 Transferability

Transferability means that the research can be applied or be of use in other similar contexts. For example, a study of the consumer habits of gamers in one part of the world can be relevant in other parts of the world as well. This criterion is the core of qualitative research: building a deeper understanding of social phenomena.¹⁹ The hope is that this thesis can serve as a starting point in inspiring even deeper examinations of gaming history.

1.5.2 Comparison as a historical tool

“Historians are notoriously resistant to comparisons”, claims Professor Peter Baldwin, yet at the same time history is inherently comparative:

All history, however hermetically limited to one nation, is comparative in this inherent sense that the very implication of uniqueness presupposes a measuring stick formed from the experiences of other countries. But there is more. Most contemporary historiography takes as its starting point the radical otherness and difference of the past. History has reemphasized its historicist roots by treating the past as a different country, highlighting the discontinuities and breaks between us and our predecessors. It no longer assumes that they were much like us, set perhaps against a backdrop of technologically less evolved circumstances. History is, in this sense, temporally comparative, between the present and the past.²⁰

¹⁸ Thagaard 2013: 179

¹⁹ Thagaard 2013: 184

²⁰ Baldwin 2004: 1, 6–7

Historian Ludmilla Jordanova even goes so far as to say that “comparison is at the heart of historical practice”.²¹ What historians generally consider *comparative history*, however, is a different beast from the more common approaches. Because historical methodology “emphasizes the uniqueness of its subjects”, historians are almost necessarily specialists delving deep into a particular area.²² Traditional methodology, then, avoids positivistic generalizations like the plague on postmodernism that they are. Since the 2000s, there have been more challenges to these paradigms. Professor Michael Miller argues that comparative history has several important pursuits:

- 1) “Searching for explanations through the comparison of similar historical phenomena with varying outcomes.”
- 2) “Scrutinizing actors and factors by looking in one subject area for what has been found elsewhere.”
- 3) “Testing theory by subjecting it to the messiness of history.”²³

This outlines a path forward towards finding causal explanations for the successes and failures of Nintendo and Sega. Through my analysis, using both my theoretical framework and comparing and contrasting, I can construct an historical account that will answer my thesis questions. Miller warns, however, that the inevitable drawback of comparative history is that “what is gained in scope is most likely surrendered in depth”.²⁴

As with bias and objectivity, being aware of this pitfall can help me as a researcher defend against it. The goal, then, is to be exceedingly selective in what deserves a critical analysis.

1.6 Structure

Chapter 2 begins with historical context surrounding Atari and the videogame crash of 1983. The format will then be the same for each chapter: There will be crucial history about Nintendo and then Sega, followed by the main critical portions of the thesis: The comparative analysis of the periods in question. Based on my findings, the sections are divided as follows:

²¹ Jordanova 2006: 152

²² Baldwin 2004: 1

²³ Miller 2004: 115

²⁴ Miller 2004: 122

- 1) The 3rd generation of consoles (1983–1987). This time period deals with the historical background for the videogame crash. The crash relates to the next part: the coming monopoly of Nintendo after they pick up the pieces of the broken industry. This again is followed by Sega's contributions to the arcade scene in this period and their growing strength preparing them to take on Nintendo in the 90s. The comparative analysis portion then goes into how this all relates to the theoretical framework and the deeper look into Nintendo versus Sega. What differentiated them?
- 2) The 4th generation of consoles (1987–1993). This section deals with Nintendo joining the new generation late and Sega finally challenging Nintendo's monopoly. The critical analysis then compares the different approaches to the theoretical framework. We start to see one of the primary differences: Nintendo being cautious and trusting their technology versus Sega leaping into hardware innovations as soon as they are available. How did this affect their success?
- 3) The 5th generation of consoles (1993–2001). The climax of the console wars is the end of a Japanese influence on the industry, with Microsoft and Sony entering the market as powerful new opponents. The stable Nintendo manages to stay in the game despite mishaps. Sega, however, must fight not only the new Sony PlayStation, but also themselves. How did this abrupt upset happen?

It is important to note that most of the critical reflection will be in the comparative analysis portions. This is to make it easier to follow by already providing all the necessary context before delving into the more contained, deeper analysis that compares and makes use of the theoretical framework.

Chapter 2: The crash and Nintendo's rise to power (1983–1987)

What was unusual about the rise of popularity of the game playing technology was that one firm, Nintendo, had been specifically associated with building the market up after the 'remains' of an industry slump and seen as the main driving force behind a new 'craze'. Populist explanations for this had used exploitative phrases such as 'kiddie cocaine' to make an issue of the 'addiction' as an explanation for the success of the technology's diffusion.²⁵

²⁵ Lake 2000: 1

2.1 Historical context: The growing pains of a new industry

The beginnings of home console videogame history can be summarized as such:

Ralph Baer patented home videogames in the 60s and Nolan Bushnell popularized them in the 70s.²⁶ Both of these men have at one point or another been called the “father of videogames”.²⁷ Baer acquired the patents and created the first home console Magnavox Odyssey, officially starting the first generation of consoles. Bushnell co-founded the illustrious Atari alongside Ted Dabney (who was later forced out), and together they created the first arcade game *Computer Space*. Most famously, Bushnell commissioned practically the mother of all videogames: *Pong*, engineered by Allan Alcorn. The popularity of *Pong* was the spark that ignited the coming revolution—as well as a lawsuit from Magnavox. It was later revealed that Bushnell had gotten his inspiration from a tennis game on the Magnavox Odyssey, and it ended with Bushnell settling out of court.²⁸ From then on, many such suits would have a significant effect on the course of videogame history, and a number of these would deal with licensing as in the case of Bushnell and Magnavox. Later, a loss of publishing controls would be a large factor in how the industry declined.

As stated, Atari popularized videogames with their enormous success: “Within ten years, Atari would grow into a \$2-billion-a-year entertainment giant, making it the fastest-growing company in U.S. history.”²⁹ In this period, the first 2nd-generation console was developed: The Fairchild Channel F in 1976. It was groundbreaking in that instead of built-in games, it had cartridges—an innovation by Jerry Lawson, notable for being among the first black people making key contributions to gaming history. Around the same time, the arcade game *Space Invaders*, which would later get ported to Atari’s consoles, was such a huge hit that it caused a national shortage of 100-yen coins in Japan.³⁰ The era of videogames had officially begun, and Atari followed up the Channel F with what would be the most successful 2nd-generation console: The Atari 2600 in 1978. The console usually went by its official moniker: The Atari Video Computer System (Atari VCS).

²⁶ Kent 2002: 19–21

²⁷ Kent 2002: 88

²⁸ Kent 2002: 87–88

²⁹ Kent 2002: 76

³⁰ Acks et al. 2020a: Episode 1

2.1.1 A landfill of broken games and broken faith

The Atari VCS turned out to be highly successful, but Atari itself would be the harbinger of the videogame crash. There are four primary reasons for the crash, with some overlap.

First, because everyone wanted a piece of the lucrative new fad, many companies joined in without any experience making games. Even Atari itself focused on quantity. The 70s were a different time for corporations who today have much more power and control over their own products. In an interview with Nolan Bushnell, he claimed, “In those days it just took a long time to get patents through. That was a problem, so we tried to be fast and to out-innovate the competition.”³¹ This resulted in a strategy of rapidly churning out games; in fact, in 1974, Atari produced a game every single month. For a while this was not a problem because faith in Atari was high, and revolutionary games such as Namco’s *Pac-Man* and Nintendo’s *Donkey Kong* would come out and create massive enthusiasm for videogames. Eventually, however, the market went from flourishing to being overcrowded with over a dozen consoles and numerous junk titles. Even cereal brands joined in: Quaker Oats made 14 terrible games for the Atari VCS, cementing the perception that the quality of many games was at an all-time low.³²

Second, because the console creators had less control over what was allowed on their platforms, third-party developers could create games for any console they wanted. This was part of the reason why the market was getting saturated with games in the first place. The first and most successful third-party developer from this time was Activision, which came from a transformed Atari. In 1978, Nolan Bushnell had been replaced with the controversial Ray Kassar. In 1980, after failing to negotiate better terms for themselves with Kassar, some of the top game engineers split and formed Activision.³³ Bill Kunkel from *Electronic Games* had some colorful commentary on this topic:

After every quality designer in the company left, Atari went, “Gee, we’re gonna lose all our designers.” Talk about closing the barn door after the horses have left. Atari didn’t just close the barn doors, they wallpapered them in velvet. Atari started paying royalties to the bums they had left.³⁴

³¹ Kent 2002: 101, 104

³² Meadows 2016

³³ Kent 2002: 22, 260

³⁴ As cited in Kent 2002: 263

Adding to the veracity of this statement is a quote from former Atari programmer Warren Robinett: “Those of us who stayed at Atari called ourselves the Dumb Shits Club. They made \$50 million and we made \$20,000.”³⁵

Third, Atari’s new direction lost them the consumer faith they had built up over the years. With Atari being synonymous with videogames, this effect reverberated across the entire market. The two primary culprits for this loss of faith were the console port of *Pac-Man* for the Atari VCS, and the game *E.T. the Extra Terrestrial*. *Pac-Man* was and is the highest-grossing arcade game of all time. Because of Atari’s focus on quantity, they rushed the *Pac-Man* port for the VCS. The character *Pac-Man* was so popular that the game sold 7 million copies, yet it was considered so terrible that many people returned their copy of the game.³⁶ It was met with thunderous outcry from fans that such a beloved game would receive such poor treatment. However, *E.T.* was even worse, and it has since garnered the reputation of single-handedly bringing down the industry. In the documentary *High Score*, creator of *E.T.* Howard Scott Warshaw said, “Some people say it was the game that destroyed the video game industry. That’s not what I was going for, actually”.³⁷ In order to meet the deadline of Christmas season 1982, Atari’s Ray Kassar, to fulfill a promise given to Steven Spielberg, gave Warshaw only 6 weeks to finish this new flagship game based on the popular movie. The game was such an unmitigated disaster that it all ended with millions of *E.T.* cartridges in a landfill in New Mexico.³⁸ Atari’s reputation would never fully recover.

Fourth, there was new competition in town: Personal computers. Steve Jobs of Apple fame got his start working under Nolan Bushnell in Atari.³⁹ Even before his and Steve Wozniak’s revolutionary Macintosh computers in 1984, personal computers were considered to have enormous potential. I met my best friend through him borrowing my Nintendo and me borrowing his Commodore 64; I remember his parents said, “Why not just buy a computer? It

³⁵ Kent 2002: 245

³⁶ Meadows 2006

³⁷ Acks 2020a: Episode 1

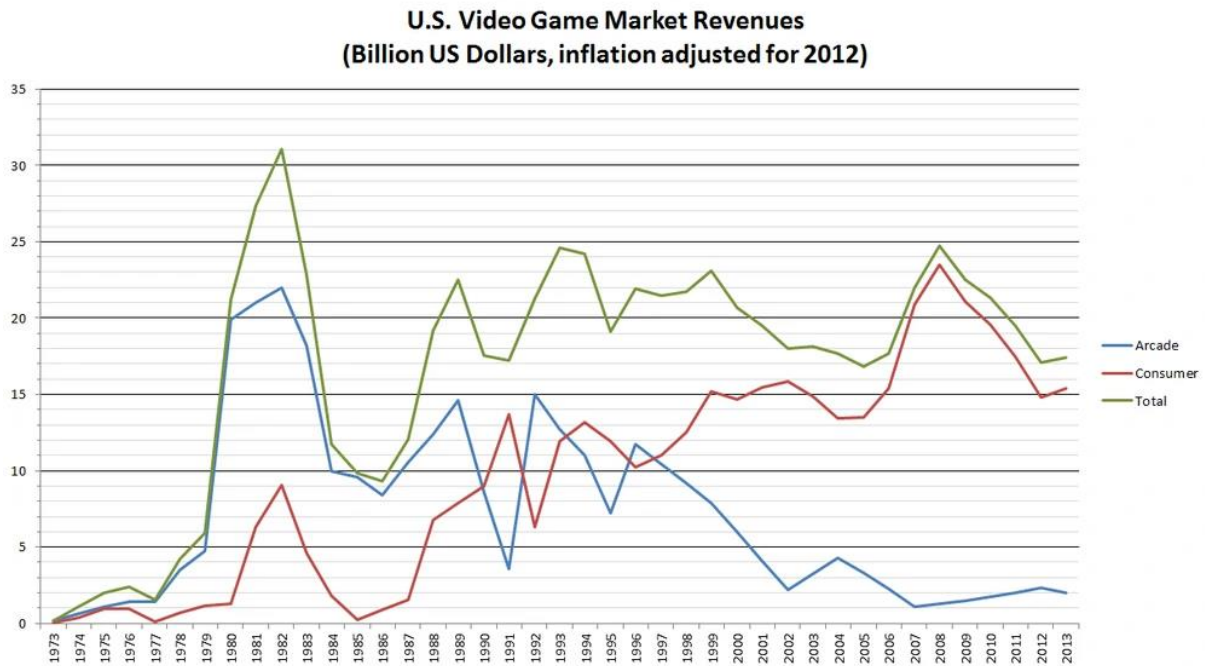
³⁸ Kent 2002: 316–317

³⁹ Kent 2002: 114–115, 137–138; At one point, Steve Jobs worked as an “informant” for Bushnell, telling him about in-house game development. Al Alcom wanted Bushnell to stop interfering in projects, so he had told his engineers not to follow Bushnell’s suggestions unless Bushnell repeated them three times. When Bushnell found out, he held a meeting and said “I understand there’s a new rule that says you don’t have to do what I tell you unless I say it three times. Well, I’m telling you now, when I tell you to do something, you do it.” In response, an Atari engineer shouted from the back, “Could you repeat that two more times?”

can play games *and* do other things”. Trip Hawkins, founder of the prodigious Electronic Arts (EA), strongly believed in computers. He thought videogame consoles were “pesky toys”, and he amassed all of his considerable influence into making games for computers: “A decision Hawkins made from the beginning that proved a successful policy was to design software for many computers, from the Apple II to Amiga to Commodore 64 to IBM”.⁴⁰ Hawkins would later change his mind, but due to computers on the rise at the time and all three other factors listed, ‘videogames’ had become a dirty word. Jim Whims, former vice-president of toy company Worlds of Wonder, had this to say about it:

With the demise of the old [Atari] business, you wouldn’t even try bringing up the words video game with some of these buyers. It was like they were going to pull you out to the parking lot and shoot you if you said the words *video game*.⁴¹

Figure 1⁴²



By the end of 1983—as shown in Figure 1—it was clear that the videogame industry had crashed. While the market crash was mostly a US phenomenon, it was the largest market, so it cascaded across the world as well. Japan, however, saw its own shift from arcade gaming into

⁴⁰ Sheff 1994: 230

⁴¹ Kent 2002: 368

⁴² Williams 2013

home consoles. It would be Japan that would lead the videogame industry into a profitable future, and the industry itself still bears some of the marks of Japanese influence.

2.2 A colorful cast in an uphill climb

Nintendo has always been a unique Japanese company.⁴³ This can be seen early in its history as a maker of *hanafuda* (playing cards). Nintendo dealt with gambling rings, the Japanese mafia *Yakuza*, and even forayed into “love hotels”.⁴⁴ In the 1970s, however, Nintendo remade itself as a toy company. Initially recruited to fix machines, the engineer Gunpei Yokoi was the primary workhorse in this period. He created many of Nintendo’s most successful products such as the Game Boy, but his Game & Watch handheld electronic games were Nintendo’s first major success.⁴⁵ In 1980, Yokoi would take on an apprentice who would become the rockstar in the world of videogame development: Shigeru Miyamoto, the creator of *Donkey Kong*, *Super Mario*, and *Zelda*.⁴⁶ Today we know that the *Mario* franchise turned out to be the best-selling gaming series in the world.⁴⁷ American kids in the 90s recognized Mario more easily than even Mickey Mouse.⁴⁸ Miyamoto would also go on to create other big Nintendo hits like *Pikmin* and *F-Zero*, and he became the creative director for all of Nintendo.

By 1983, the Atari VCS was outdated. It had to compete with its bigger brother the Atari 5200 and over a dozen other consoles—not to mention computers. The year before, *Time* magazine had declared the *computer* the “person of the year”.⁴⁹ For Japan, however, things were different. As Sam Pettus writes: “CEO Hiroshi Yamauchi, descendent of the company’s original founder, proposed a bold plan to Nintendo’s engineers: develop their own personal computer for the Japanese market.”⁵⁰ This console became a huge success, and in Japan it was called the “Family Computer”, or Nintendo Famicom. Later, when most everyone else in the US had given up on videogames, Yamauchi wanted to go global. After some modifications

⁴³ Sheff 1994: 14; *Nin-ten-do* means “Leave luck to heaven”. According to David Sheff, this best translates into “Work hard, but in the end it is in heaven’s hands.”

⁴⁴ Sheff 1994: 15, 20

⁴⁵ Sheff 1994: 21–22, 28

⁴⁶ Sheff 1994: 44–58

⁴⁷ Sheff 1994: 50

⁴⁸ Kent 2002: 584

⁴⁹ Ryan 2013: 51–53

⁵⁰ Pettus et al. 2013: 31

for the American market, the Famicom would be the console to dominate the industry for years to come. Before that, though, Nintendo had the laborious task of penetrating the US market.

Hiroshi Yamauchi had a daughter, Yoko, who married into the rich Arakawa family. Minoru Arakawa eventually proved himself a capable son-in-law, so Yamauchi made Arakawa the president of Nintendo of America. Together with his trusted friend and Nintendo attorney Howard Lincoln, who became vice-president under Arakawa, they were tasked with bringing Nintendo to the US.⁵¹ After many failures, it became apparent that they would need a smash-hit game to tide over the masses. It was at this time that Miyamoto made his debut into videogames by creating the arcade game *Donkey Kong*, in which “Jumpman” had to rescue the princess from a fearsome gorilla. By converting the cabinets of the already failed game *Radarscope*, they snuck the great ape into the arcade market.

Neither David Sheff nor Steven Kent have touched on the importance of this cultural icon. A quirky and fun replica of *King Kong* was a sneaky way to enter the US market due to how ingrained he is in American traditions. Everyone knew of this powerful ape and took pride in it. Kong even had connotations of the US versus Japan with movies like *King Kong vs Godzilla*. It is an ironic subversion, then, that it was used by a Japanese company to gain acceptance into the United States.

When *Donkey Kong* saved the day for NoA, Arakawa had trouble paying the bills. When Nintendo’s landlord Mario Segale gave them leeway on payment, Arakawa honored him by renaming the protagonist in *Donkey Kong* “Mario” instead of “Jumpman”. That is how Mario got his name.⁵² Odd as the game was, the arcade gorilla took the US by storm. Nintendo used this opportunity to cautiously start bringing in other products such as the Game & Watch.⁵³ Finally, Yamauchi had a foot in the door. Unfortunately, the downside to joining the big leagues was that Nintendo then also attracted the attention of the major players. It is important for context to understand just how enormously popular videogames had become in the early 80s: *Time* magazine reported that “the video-game industry earned twice as much money as

⁵¹ Sheff 1994: 93–100

⁵² Kent 2002: 220–221

⁵³ Sheff 1994: 127

all Nevada casinos combined, nearly twice as much money as the movie industry, and three times as much money as major league baseball, basketball, and football.”⁵⁴ Nintendo now had new, powerful enemies.

Sid Sheinberg was “one of the most litigious, hostile men in the entertainment business”. He was the president of the Music Corporation of America (MCA) conglomerate, today known as the gigantic Universal Studios. One day in April 1982, Arakawa received a troubling demand from Universal: Turn over all profits from the game *Donkey Kong* and destroy all unsold games. The message was clear: Universal claimed the rights to *King Kong*, and Nintendo infringed on this copyright.⁵⁵

Long story short, Nintendo hired the fearless lawyer John Kirby to represent them, and in the end, they won even after Universal appealed all the way to the US Supreme Court. The most important consequence was that Nintendo understood that they had fought in the big leagues and won.⁵⁶ It was with this newfound confidence that they introduced their new console—already successful in Japan—into the US market.

“Arakawa marveled at the intensity of the hostility toward videogames—even the phrase was taboo”, David Sheff writes, and continues: “Destroyed careers, divorces, and a suicide were blamed on the Atari crash”.⁵⁷ The Nintendo of America team would face an uphill struggle of epic proportions. Even NoA president Minoru Arakawa, who had earned a reputation of relentless persistence, ended up close to quitting. Yamauchi was undeterred, however. He saw the Famicom selling so well in Japan that they practically owned the entire home console market there. At first, they had tried negotiating with Atari to distribute Nintendo’s console, but this fell through.⁵⁸ Instead, Nintendo’s successful way into the US market can be attributed to three phases:

In the introductory phase, Arakawa decided to showcase the new console at the enormous January 1985 Consumer Electronics Show (CES), a veritable circus for industry giants to

⁵⁴ Kent 2002: 213

⁵⁵ Sheff 1994: 117

⁵⁶ Sheff 1994: 126–127

⁵⁷ Sheff 1994: 158

⁵⁸ Kent 2002: 371

brandish their shiny new products. It was a failure.⁵⁹ The atmosphere was clear: Videogame consoles had been branded infectious trinkets. Arakawa decided to rebrand. The Famicom became the Nintendo Entertainment System (NES) with the design changed into a gray box. The game cartridges were now “game packs”, and the console was now a “control deck”.⁶⁰ For the next CES in June, they also had Gunpei Yokoi design an eye-catching robot toy that could be controlled by the console. More importantly, they had a “light gun” peripheral called an “NES Zapper”. The Zapper game *Duck Hunt* would later be a launch title for the NES, finally allowing Americans to shoot their TVs with impunity. The result was better than before with a couple of potential buyers. But focus groups of kids showed that even they did not like the NES—at least not yet. Undaunted, Yamauchi wanted a trial by fire: He asked the NoA team where the hardest market was, and then ordered them to go there. Arakawa was not allowed to give up, so he marched on. Summer 1985, the American Nintendo team headed for New York.⁶¹

In the second phase, Arakawa had to impress retailers into selling NES consoles. From the very beginning of the videogame era, videogame companies had worked closely with toy companies to sell consoles and games. By rebranding the NES as a toy, Nintendo hoped to rekindle this relationship. This proved to be an insurmountable task at first. Arakawa was forced into desperate measures: He promised the stores that they could sell Nintendo consoles with no risk attached. They would get the consoles, sell what they could, then send unsold consoles back to Nintendo. The Nintendo group, now calling themselves a “SWAT team”, would even come and set up the display of games. This ended up being a colossal amount of work, and Yamauchi did not like this dangerous strategy. Nonetheless, he yielded the decision to Arakawa. The result was a moderate success with over 500 stores selling Nintendos. Out of the 100k consoles shipped to the US in this period, half of them sold. Nintendo proved they could sell even in the toughest market, and they marched on to Los Angeles and other cities.⁶²

In the third and most important phase, in 1986, Nintendo teamed up with a legend in the toy industry named Don Kingsborough. His company was called Worlds of Wonder (WoW). It

⁵⁹ Kent 2002: 376

⁶⁰ Acks et al. 2020b: Episode 2

⁶¹ Sheff 1994: 163–164

⁶² Sheff 1994: 169

was created by former Atari staff, so they knew the gaming business. WoW had a mechanical bear called Teddy Ruxpin that played cassette tapes in sync with moving its mouth, and it was the most popular toy on the market. Nintendo thus gained access to WoW's valuable distribution network.⁶³ By 1987, the bear had been replaced by the NES as by far the most popular item in toy stores.

2.2.1 Nintendo assumes direct control

While Atari ended up the harbinger of destruction for the videogame industry, Nintendo was the one to rebuild through their unorthodox methods. They did not just enter the US market; they took control of it. They needed good products for this, and the NES was a powerful console for its time. More importantly, 1987 was tremendous in terms of first-party software: many groundbreaking franchises came out that upped our standards for games forever. Two of these were Nintendo's own *Super Mario Bros* and *Legend of Zelda*; I will analyze these games in the comparative section. In addition to the high-quality console and first-party games, there was one other important component to the Nintendo power dynamic: the strict licensing agreement. As NoA vice-president Howard Lincoln explained in an interview:

When we set up this third-party licensing program in 1986, we came up with a program by which we identified ways that we could control the quality of software that was going to reach the market. We said two things. We said, "If you want to be a third-party licensee, you have to agree that you will only publish five games a year on our system, and you have to agree that the games will be exclusive to the Nintendo Entertainment System for a period of two years." From our point of view, those clauses worked as a quality control mechanism.⁶⁴

It was difficult at first to make the third-parties agree to these terms. For a period of over a year, only Japanese developers like Capcom, Konami, Data East, and Bandai signed with Nintendo. Eventually, as Nintendo grew in influence and profits, American companies learned that they had to join in or lose out on the Nintendo phenomenon. There was another problem, however: Nothing stopped companies from making games for the NES anyway. To enforce these terms, the solution was a security chip on the games themselves that would only authorize games approved by Nintendo.⁶⁵ Another benefit to the license agreements was

⁶³ Sheff 1994: 176–177

⁶⁴ Kent 2002: 465

⁶⁵ Kent 2002: 401–402

that “while Nintendo manufactured all the cartridges for the NES, it was incumbent on the licensee to sell them. This reduced Nintendo’s risk of a game being a flop and being returned by retailers, as had happened to Atari.”⁶⁶ Above and beyond such robust controls, Nintendo had yet another quality control measure: Howard Phillips.

Phillips was the one who had been marched into the courtroom to demonstrate *Donkey Kong* in the Nintendo vs Universal lawsuit, and he had been *the* game tester for years. Initially hired to be a warehouse worker, Phillip’s social and gaming skills stood out; Arakawa realized that Phillips was the perfect spokesperson for Nintendo. His skills even eventually developed into an extra layer of security to ensure quality games. In truth, Phillips was not alone. There were two groups: the “Big Three” and the “six game councilors” (GC6). Howard Phillips, Don James, and Shigeru Ota comprised the Big Three. Together with the GC6, they evaluated if games were good enough to receive the “Nintendo Seal of Quality.” Phillips was in a league of his own having mastered over 500 games. He was awarded the official Nintendo of America title “Game Master”, and he would eventually become the most recognizable face of Nintendo in the 90s.⁶⁷

With all the groundwork done, a killer console and games, not to mention all these controlling measures in place, Nintendo gradually seized control of the market. It was not a quick process. Changing the minds of so many influential industry professionals and the public at large was a hard-won victory—but it was only the beginning. Nintendo was merely viewed as the leader in what was still considered a shaky industry. By the late 80s, this perspective would evolve into something much, much more.

2.3 Sega the arcade champion

Like Nintendo, Sega has always dealt with entertainment. Coincidentally, while Nintendo at one point had ties with organized crime, mafia-related circumstances partly led to the creation of Sega. In the US, coin-operated entertainment had a bad reputation in the 1930s due to an association with luck, gambling, and the mafia. Even pinball machines ended up banned for 40 years.⁶⁸ In the 1950s, more legislation against gambling passed in the US senate, making it

⁶⁶ Gallagher & Park 2002: 73

⁶⁷ Sheff 1994: 184–185

⁶⁸ Kent 2002: 37–39

harder to own various amusement devices. Seeing an opportunity, a fellow named Marty Bromley bought up coin-op devices such as pinball tables and slot machines for cheap, then shipped them to Japan.⁶⁹ With the Korean war raging, there were many American soldiers in Japan at the time who welcomed the diversion. After some success, Bromley decided to send two of his associates to Japan to expand the operation:

There are two people who played a very important role in the opening and establishing of the coin machine industry in Japan. Dick Stewart and Ray Lemaire had come to Japan in 1952 and, sharing an office as a bedroom, had from scratch built a major operation on the U.S. military bases. They called their company Service Games.⁷⁰

A couple of years later, “SErvice GAMES” would begin calling themselves the shortened version, and thus the name ‘SEGA’ was born. Sega’s entry into arcade gaming, however, was yet to come. During this time, a highly industrious man named David Rosen had, after many successful ventures, begun to import electromechanical arcade machines into Japan. In 1964, so it was that Service Games (SEGA), with a shared interest in entertainment, merged with David Rosen Enterprises to become Sega Enterprises, Ltd—with David Rosen as CEO. Sega’s first electromechanical game, *Periscope*, was a success. It came out in 1966, and it was a huge arcade cabinet that simulated a submarine blowing up ships. The machine was expensive, and Rosen thought such an experience should cost more, so it ended up being the game that forever enshrined arcade games costing 25 cents (a quarter).⁷¹ After Sega’s success, oil giant Gulf & Western bought Sega in 1970.⁷²

While Sega did well in the 70s, it was during the early 80s that they set themselves apart as game creators. As game historian Sam Pettus says about Sega’s games from this era:

Some of the best known examples include: *Monaco GP* (1980), *Astro Blaster* (1980), *Space Fury* (1981), *Eliminator* (1981), *Pulsar* (1981), *Frogger* (1981), *Turbo* (1981), *Pengo* (1982), *Tac/Scan* (1982), *Zaxxon* (1982), *Star Trek* (1982), *Up 'n' Down* (1983), and *SpyHunter* (1984). All of these are now considered arcade classics, and many led the video game market in technical innovations.⁷³

⁶⁹ Kent 2002: 443

⁷⁰ Interview of David Rosen as cited in Kent 2002: 444

⁷¹ Horowitz 2018: 18–21

⁷² Pettus et al. 2013: 13–15

⁷³ Pettus et al. 2013: 16

Sega would eventually take all their videogame experience with them into the home console market throughout the 80s, but it was not David Rosen who would spearhead this course. In 1979, Rosen bought Esco Trading to acquire one man's leadership: Hayao Nakayama, a tenacious businessman with a reputation for aggressive tactics.⁷⁴ Following the upcoming industry decline, Rosen's faith in Nakayama would be rewarded. Unlike countless other game companies after the videogame crash of '83, Sega survived: Gulf & Western sold off Sega in parts, much like a scrapped car. This was the end of an era not only for early videogames, but also because Rosen himself decided to resign in January 1984. Only a few months later, however, Rosen would organize buying back Sega. With the help of Nakayama and a powerful investor named Isao Okawa, Sega was bought back for only \$38 million. This deal positioned Hayao Nakayama as president of the Japanese division, effectively putting him in charge of Sega.⁷⁵ In time, Rosen would return to Sega as chairman of Sega of America, but he would never be fully in charge again. Together with the new boss Nakayama in Japan, they would lead Sega to greater heights in the coming years, but these were also the beginnings of a leadership divide and internal strife within Sega.

2.3.1 Uneven beginnings

Sega's fight for recognition would be every bit as hard as Nintendo's, but for a different reason: They now had to take on Nintendo. Just like Nintendo, before the market crash, Sega had been doing exceptionally well in the arcade market. It was in this period, in 1983, that Sega decided to come out with their first console: the SG-1000.⁷⁶ Sega's first console was nothing special. It was basically identical to the already existing ColecoVision, but Sega had some of their better arcade games ported to it. The only problem was that it launched on the exact same day as the Nintendo Famicom: July 15th, 1983. Combined with the crash happening and the arrival of the most powerful personal computer at the time, the Commodore 64, Sega's console had the odds stacked against it from the start.⁷⁷ Still, all was not lost. When the Famicom first launched, there was a serious, undetected design flaw freezing games that forced Yamauchi to recall all the consoles, costing Nintendo millions of

⁷⁴ Horowitz 2018: 34

⁷⁵ Horowitz 2018: 120–121; Pettus et al 2013: 18–19

⁷⁶ Pettus et al. 2013: 21

⁷⁷ Pettus et al. 2013: 21

dollars.⁷⁸ The Famicom with its popular games like *Donkey Kong* and *Popeye* still sold well despite this, but the launch setbacks gave Sega some much needed breathing room. For example, the Famicom's controllers were much superior to that of the SG-1000, and Sega now had time to copy them. Within a year, Sega launched the SG-1000 Mark II, sporting a more powerful processor and detachable controllers similar to Nintendo's.⁷⁹ Computers were in fashion at the time, so Sega also came out with the SC-3000, a personal computer with a keyboard that could play the SG-1000 games. It was a commercial failure. Two years later, however, it would serve as a base for the more powerful SG-1000 Mark III.⁸⁰ Sega's main console was then more powerful than the Famicom.

The Mark III came out in October 1985 in Japan. The most notable thing about it was that it was the first console to have 3D glasses: "Each lens would rapidly strobe between opaque and clear; this was carefully timed to correspond with rapid shifting of on-screen imagery to simulate a 3D effect". The effect worked well, and Sega created games specifically to take advantage of it.⁸¹ This firmly cemented Sega's reputation as being an innovator in the industry, but Sega could still not catch up with Nintendo. Despite the market crash in the US, Sega had decided to keep focusing on their home consoles. Studying Nintendo's success, Sega stripped the Mark III of everything unnecessary; they wanted to make it just as powerful as before but more affordable for the average consumer. The result would be part of Sega's legacy: the Sega Master System (SMS).

Sega president Nakayama, still as aggressive a businessman as he was back when Rosen initially recruited him, had seen the videogame market crash, and he was now forced to witness Nintendo's success in both Japan and the US. Undeterred, Sega marched forward into the US market first. In June 1986 at the CES, Sega unveiled the SMS, which was sold with a "light phaser" and two controllers just like the NES. Compared to the NES, the Master System was stronger in all respects and only \$10 more expensive. Sega had refined the machine for two years, after all, while the NES was still the same box. In the end, it did not matter to the average consumer: Nintendo had almost completely overtaken Japan's

⁷⁸ Sheff 1994: 34–36

⁷⁹ Kohler 2009

⁸⁰ Pettus et al. 2013: 22–23

⁸¹ Pettus et al. 2013: 34

videogame market at this point, and it was heading a similar direction in the US. The Master System launched in September 1986, and it sold 125 000 systems by the end of the year. Disgraced Atari, still hanging on to the remnants of its former glory, sold 100 000 systems of their new Atari 7800 in the last six months of '86. Nintendo's numbers spoke for themselves: 1.1 million NES units sold in 14 months. Nintendo felt comfortable with their success and planned for nothing in 1987 except, as mentioned, to expand on their already popular library of games.⁸² For Sega, outselling Atari at the time was no small feat. Sega was still a newcomer in the US market when it came to selling hardware. At the launch CES, some attendees even mistook them for Saga Foods and wondered why a food company would start making consoles.⁸³ After Sega's launch in '86, it would be some years before Sega could turn things around against Nintendo. Thankfully for Sega, there was one market where they would perform better: Europe.

While the US with its 50 states might be more demographically diverse than Europeans give them credit for, Europe does pose a more unique challenge from an analytical perspective. For one thing it means having to deal with dozens of idiosyncratic markets.⁸⁴ For another, it means having to deal with legal frameworks and borders that have existed for centuries. After all, not having to slog through bureaucratic quagmires is one of the great benefits of the European Union—a fact the pro-Brexit factions have no doubt discovered by now. As one example, it took until the late 90s or even later for some of Sega's distribution deals to manifest in Europe. Norway, for example, got their distribution deal in the 90s through toy company Brio.⁸⁵ Another challenge Sega faced was that Europe had already embraced computers:

Breakthroughs in technology and production resulted in microcomputers could be easily produced en masse and at lower costs. Soon enough, the mass media was broadcasting news segments about how computers would change the world. Bit by bit, parents all across Europe began buying computers for their kids – after all, people without access to computer technology would be left behind, went the thinking. And as it turned out, this wasn't so far from the truth.⁸⁶

⁸² Herman 2001: 298

⁸³ Kent 2002: 397

⁸⁴ Pettus et al. 2013: 529

⁸⁵ Pettus et al. 2013: 540

⁸⁶ Pettus et al. 2013: 529–530

To conquer Europe, Sega would need marketing. With videogames still feeling like a relatively new addition to the entertainment industry, another problem was that many of the toy companies had issues effectively marketing them. Sega would learn this painful lesson later in the US with the toy manufacturer Tonka, and Nintendo was learning it now with Mattel in Europe. Before Tonka, however, Sega got lucky in Europe. Mastertronic was a company founded in 1983, and one of its founders Frank Herman was spellbound by the possibilities of the home console industry. In 1987, he sought out Sega for a distribution license. This would be an event that led to Sega capturing Europe: Everything Sega sent to Mastertronic got sold because they understood how to market videogames.⁸⁷ Sega's uneven beginnings in the console industry thus started to improve, but Nintendo's lead in the US would still widen considerably in the following years after '87.

2.4 3rd generation comparative analysis: 1983–1987

2.4.1 Soft power and soft monopoly

In the early stages of the console wars, Sega was the only real competition Nintendo had. Atari would never again rise to relevancy, and no one dared to follow in their steps. The Japanese way of doing business, however, is different. Even today, market research and a focus on quarterly profits rule the US market with CEOs having to face the scrutiny of stockholders four times a year. It was simply not the same in Japan, as gaming historian David Sheff writes:

Had Nintendo been American, the company would probably have retreated when retailers in New York declined to place orders, or when it took more than a year for big sales numbers to appear. But commitment to an idea and pure tenacity are inherent in Japanese business philosophy—and certainly to Japanese business successes. Arakawa's perseverance was vital—"I learned to set a goal and do what is necessary to reach it"—but even more important was Yamauchi's commitment to back him. The money poured forth—more than the original \$50 million Yamauchi had committed.⁸⁸

This also explains Sega and Nakayama's insistence. All the American companies completely gave up on the videogame industry, but two tenacious Japanese companies stubbornly paved the way for an industry renewal. Nakayama was no different from Yamauchi in his relentless

⁸⁷ Pettus et al. 2013: 537

⁸⁸ Sheff 1994: 172–173

pursuit of industry dominance, and Nakayama's shrewdness would become even more apparent in the early 90s. In the beginning, however, it was mostly Nintendo's doing: "Nintendo had fully exploited the conceptual advantages of being the first mover by establishing the standard (over 80% market share), preempting scarce assets (e.g., programmers), and being synonymous with home video game technology in consumers' minds.", write business professors Scott Gallagher and Seung Ho Park.⁸⁹ In the business world, a 'first mover' is the company that first brings a new product or service to the market. While Atari was technically the first mover, they gained less of an advantage due to everyone else being able to copy their products. Atari also had a heavy hand in demolishing the industry that Nintendo then built back up. The primary advantage of this is the ability to work towards a monopoly—which Nintendo took full advantage of.

"Preempting scarce assets" refers to how Nintendo set up a soft monopoly through all the quality assurance checks and exclusive deals, securing first mover advantages. Locking third-party developers into creating games for the NES made it difficult for other companies like Sega to compete or copy. In the business world, this cooperation with allies is known as *effective channel management*, meaning good relations with your business partners, and the creation of such a soft monopoly is known as *creating entry barriers*.⁹⁰ As an example of the former, Sam Pettus notes that "Nintendo made sure to give its third-party partners plenty of exposure—even if they were locked into restrictive contracts—which in turn cultivated support among other prospective groups wanting to develop for the NES".⁹¹

Nintendo becoming synonymous with videogames is another important factor in business: Brand recognition. This is the prime advantage of being a first mover. An almost two-year head start over Sega allowed Nintendo to branch out their product lines with the help of the Worlds of Wonder distribution deal. Nintendo had a Donkey Kong cartoon and made Mario toys before Sega even had a real mascot. In 1986, there was an attempt at making Alex Kidd from *Alex Kidd in Miracle World* the Sega mascot, but despite the game being bundled with a later version of the Master System, the mascot was considered bland and "a disappointing rip-

⁸⁹ Gallagher & Park 2002: 70

⁹⁰ Gallagher & Park 2002: 67

⁹¹ Pettus et al. 2013: 47

off of Mario”.⁹² All of this speaks to the role that Nintendo’s monopoly would play, and it was already beginning to become one.

That is why for Sega it proved impossible to fight Nintendo in the US during this time period, but Europe turned out to be the success story they needed. With Nintendo of Europe’s (NoE) iron grip slackening due to their distributor Mattel’s failed marketing campaigns, over a dozen developers signed with Sega and made popular games for the Master System. In fact, the situation was so dire for NoE that they had to license some of the best SMS titles for the NES.⁹³ This contrast demonstrates the power of the American soft monopoly Nintendo had at the time, and they would later have to face antitrust lawsuits as a result. However, without the intentional actions of Yamauchi and Arakawa in securing Nintendo’s initial push and brand name, Nintendo would not have had the soft power to influence third-parties into such one-sided deals, thus creating the limited monopoly keeping Sega out of Nintendo’s walled garden.

2.4.2 Worse technology but better games and adaptation

When the NES first came out, it was more powerful than the competition at the time, but this did not last throughout the generation. Early on, this was another key factor in how it eventually gained acclaim among distributors and consumers. What truly set it apart, however, was the controller. Designed by Nintendo’s engineering workhorse Gunpei Yokoi, the controller for the NES had a revolutionary design that is still the rough blueprint of gamepads even today—except the main directional pad is now analog instead of digital. With the directional movement input in the form of a +-pad on the left and two buttons on the right, the “[NES] controller was both elegant and functional. The joystick, once the symbol of video gaming, was about to be replaced by a newer and more universally applicable device”.⁹⁴ Both Sega and Atari rushed within a year to replace their joysticks with a gamepad similar to that of the NES. Sega president Nakayama clearly thought Nintendo was worth emulating, but there was one large difference between the companies: Sega never abandoned their focus on the arcades. Sega is still making arcade games today in 2021.

⁹² Harris 2014: 85

⁹³ Pettus et al. 2013: 41

⁹⁴ Kent 2002: 366; The left-side directional portion of gamepads is still called the “d-pad” to this day after the original NES controller.

Meanwhile, Nintendo refocused all their efforts into making cartridges and console games.⁹⁵ This split attention for Sega meant that they had a test bed for their arcade games to be ported to consoles, but it continued putting them in direct competition with the third-party developers Sega wanted for their own home consoles. As for the consoles themselves, the Master System had almost double the onboard memory of the NES. The SMS CPU similarly ran at 3.6MHz versus the NES at 1.79MHz, which was a significant difference.⁹⁶ Despite this contrast, when the Nintendo Famicom came out, it allowed its games to feel more like actual arcade games than any other system before it.⁹⁷ The overall popularity of the NES versus the Master System indicated there was more to this than being first: Nintendo had better games at the time. The name recognition of *Donkey Kong* alone sold NES systems, but it would not be the biggest hit of the era.

By creating a strict licensing agreement in 1986, the third-parties also had to focus on quality over quantity—the very opposite of the Atari situation and market crash. The thinking was that by limiting developers to 5 games a year, that would improve the quality of games. This proved to be correct. Nintendo’s early first-party titles were universally well-received, and with the license agreements, the NES also received an abundance of good third-party games. All of these were branded with Nintendo’s trusted *Seal of Quality*. “Nintendo’s biggest advantage was its library of games, and the advantage was apparent right from the start. *Super Mario Bros* was more popular in arcades than [Sega’s] *Hang On*, and Nintendo did a much better job of capturing its game in the home version”, claims gaming historian Steven Kent.⁹⁸ Beating *Hang On* was an impressive feat considering it was so popular in the arcades that Sega’s Tokyo factory could not keep up with the demand for the game. It was a motorcycle game with handlebar controllers. Unfortunately for Sega, it did not port well to the Master System.⁹⁹

Super Mario Bros, however, changed gaming forever. It was Shigeru Miyamoto who once again had created a smash-hit: For the next 20 years, it would be the top-selling game in the

⁹⁵ Kent 2002: 396

⁹⁶ Kent 2002: 305; Gallagher & Park 2002: 71

⁹⁷ Acks et al. 2020b: Episode 2

⁹⁸ Kent 2002: 399

⁹⁹ Kent 2002: 396;

world.¹⁰⁰ *Super Mario Bros* revolutionized gaming in several ways. First, while there were many platforming games out there, there existed almost no side-scrolling games. This was, in fact, the first time the term “side-scrolling game” appeared.¹⁰¹ It was the game to popularize both genres by telling a continuous story. Mario traveled different sceneries up into the clouds and down into the underworld on his quest into King Koopa’s castle. Many of today’s best-selling franchises were all side-scrolling platformers that were made following *Super Mario Bros*: Nintendo’s *Metroid*, Capcom’s *Mega Man*, Konami’s *Castlevania*, and even Sega’s own flagship game *Sonic the Hedgehog*.¹⁰² Second, Koji Kondo, the brilliant creator of the Mario music, worked closely with Miyamoto throughout the entire development to make sure the music fit the gameplay perfectly. This not only had never been done before, the music was so catchy that it successfully sold CDs and records on its own.¹⁰³ The NES was not built to create such complex music, so Koji had to get creative with the hardware. Before Mario, games would have mostly black backgrounds and very simple music—if they had any music at all. Now, Miyamoto had added in vivid backgrounds that fit the biome Mario explored, and Koji did the same with the music. The result was—just like the game itself—far ahead of its time:

“The music, most of all, was happy. The score for level 1 is an infectiously happy synthesizer salsa. When Mario has an underground level, a bass-heavy score fraught with tension kicks in. When he’s underwater, the music is soothing and muted, almost submerged.”¹⁰⁴

Third, *Super Mario Bros* changed the whole industry’s perception of difficulty. The reason why early videogames are notoriously difficult comes from the simple fact that arcade games cost money per play, and so there is a built-in incentive to make the player lose. This is a balancing act, of course: If it is too easy, there will be no profit; if it is too difficult, the players give up in frustration. Arcade and console games thus have different goals. With Nintendo now focusing solely on home consoles, Miyamoto could focus more on simply having fun gameplay. The question of difficulty then became more one of replayability without the added constraint of killing players for profit. *Super Mario Bros*’ replayability was

¹⁰⁰ Iwata 2009

¹⁰¹ Kent 2002: 390; The term was first used by Arnie Katz, editor of *Electronic Games*.

¹⁰² Minotti 2015

¹⁰³ Sheff 1994: 54; Ryan 2013: 55–59

¹⁰⁴ Ryan 2013: 57

why it succeeded even as an arcade game. There were hundreds of little “Easter eggs”, or hidden secrets, for players to find. There were hidden coins, power-ups, cloud sections, and even hidden worlds.¹⁰⁵ With these new standards for gameplay, people continued playing *Super Mario Bros* even after they mastered it to the point of almost never dying. The end result was a game that is commonly known as having resurrected the whole videogame industry.

It was not Miyamoto’s only smash-hit of the era, however. Another game to come out in 1986 was *The Legend of Zelda*. The game joined Mario as one of the best-selling franchises in the world, and Miyamoto created it while simultaneously working on *Super Mario Bros*. The magazine *Game Informer* can put this achievement into perspective. In 2009, in honor of its 200th issue, the magazine hosted a list of the top 200 games of all time: *The Legend of Zelda* was #1, and *Super Mario Bros* was #2.¹⁰⁶ Miyamoto as a kid had loved the feeling of exploring new places without a map, and so *Zelda* was a grand adventure with hundreds of locations to explore.¹⁰⁷ It was a top-down perspective, free-roaming quest where the hero Link had to rescue Princess Zelda of Hyrule. The game was so expansive and complex that it required a new chip built into the game called a “Memory Management Controller” (MMC). Gunpei Yokoi’s popular *Metroid* series would also require this chip, and it soon became a new standard in ambitious NES games. Much like Mario, *Zelda* had a huge impact on the gaming industry by setting such new standards. The most revolutionary feature *Zelda* brought was the first appearance of save games. Due to its internal battery, the game allowed for storing three save files, meaning the game enabled families to resume separate playthroughs on the same cartridge. With the new chip, the game was a masterpiece of modern engineering and came in a fancy gold cartridge unlike all other NES games.¹⁰⁸ This shows Nintendo’s focus on being family-friendly even early on. Nintendo understood that households had a need for kids to be able to stop playing whenever their parents said ‘enough’, and with multiple save slots it allowed the whole family to play. This also shows the importance of Nintendo’s technological ingenuity. While Sega might have fielded the strongest console in

¹⁰⁵ Kent 2002: 391

¹⁰⁶ Staff 2009

¹⁰⁷ Sheff 1994: 51

¹⁰⁸ Kent 2002: 467–469

terms of power, Nintendo made clever use of their technology by expanding upon it in ways thought to be impossible.

In the period of 3rd generation consoles, Nintendo's creative games thus meant more for their success than other factors, and this can then be traced to the actions of Shigeru Miyamoto. The monopoly Nintendo was beginning to create was also a major factor this early. For now, it was all Sega could do to be the best at simply emulating Nintendo as it pulled the industry into the future. That Sega did not have its own identity yet was a fact that Sega president Nakayama became more and more painfully aware of as the NES widened the gap. Ever the risk-taker, Nakayama decided to do what Nintendo had done to him: Get a head start. While chalking this generation up as a temporary setback and learning from the experience, Nakayama launched Sega's substantial resources into making the perfect console for the next generation.¹⁰⁹

Chapter 3: A rivalry emerges (1987–1993)

3.1 Nintendo power

After 1987, Nintendo would reach even greater heights. Within two years, it would take control of the entire toy market in the US to the point where even giants like Wal-Mart and Toys “R” Us had to bow to Nintendo's strict demands. Arakawa and Lincoln can take partial credit for this success, but there are other crucial names as well. Peter Main was Arakawa's neighbor for many years and had extensive experience working as an executive salesman for Colgate-Palmolive. Arakawa saw promise in Main, and Main in turn saw promise in Nintendo. In the end, Arakawa hired Main as vice-president of marketing in 1987, and he would be instrumental to Nintendo's success. Main quickly expanded Nintendo's distribution network to include the big boys. Through clever tactics such as giving ‘hot tips’ to analysts, showing the largest distributors how successful Nintendo had been in Japan, and circulating positive rumors about Nintendo, Main secured giants like Wal-Mart and Circuit City.¹¹⁰ Two other important names are Gail Tilden and Howard Phillips, the Game Master. Phillips, with his affable and geeky demeanor, became the public face of Nintendo and went on publicity

¹⁰⁹ Pettus et al. 2013: 54–55

¹¹⁰ Sheff 1994: 170–171

tours. He also started the *Nintendo Fun Club* with Gail Tilden as editor, which quickly grew into the prominent magazine *Nintendo Power*. The former was a free subscription service that felt necessary as a complement to Nintendo's game counselor hotlines. In the pre-Internet era, there was a dire need for information about games. With the success of *Legend of Zelda* and other such complex NES games, Nintendo's phone lines exploded with callers wanting game tips. Initially free, the meteoric rise of both the club and the hotline made it untenable, and so *Nintendo Power* was born while the hotline started costing money.¹¹¹ It did nothing to stop the horde of callers, and *Nintendo Power* instantly became the most popular kids' magazine in the US. By the time it finally ended in 2012, it was the longest-lasting game magazine in America.¹¹² Nintendo thus established its family-friendly image in a surreptitious way.

The marketing was invaluable: Licensees would beg and plead to be included in the magazine as it substantially boosted sales. Being featured on the front cover was publicity on the same level as Superbowl commercials today. The magazine also provided customer service by allowing parents and kids to preview games.¹¹³ With the NES also skyrocketing in popularity, Nintendo became a household name. In fact, before the 80s were over, over a third of all US households had an NES. *Nintendo Power* also featured Howard Phillips in every issue, and by the early 90s, "59 percent of boys between the ages of nine and eleven could identify him".¹¹⁴ The Japanese company was becoming a giant even among giants, but it was beginning to earn them enemies everywhere.

It is perhaps hard to understand without having experienced it how much Nintendo permeated US society in the early 90s. While something like the computer or VHS market had at least dozens of competitors, Nintendo was almost alone in the videogame market. "When Apple Computer president Michael Spindler was asked in March 1991 which computer company Apple feared most in the 1990s, he answered, 'Nintendo'", writes David Sheff.¹¹⁵ However, while Nintendo was perhaps the most popular company in the US at the time, it was

¹¹¹ Acks et al. 2020b: Episode 2

¹¹² Cifaldi 2012; Sheff 1994: 178

¹¹³ Cifaldi 2012

¹¹⁴ Kent 2002: 462, 478; *Nintendo Power* had an extremely popular feature called "NES Achievers", which listed top scores in various games. Steve Wozniak, genius cofounder of Apple, would regularly top the *Tetris* high score so often that the magazine stopped featuring his name. Wozniak responded in his usual clever fashion: the top score after that was "Evets Kainzow"—Steve's name backwards.

¹¹⁵ Sheff 1994: 6

simultaneously extremely unpopular. Nintendo was generous to those who played by its rules, but quickly became the worst enemy imaginable to companies who deviated from instructions. By 1988, Nintendo had taken over the toy market. It was not only bigger than Hasbro and Mattel combined, Nintendo also held 25 out of the top 30 toys.¹¹⁶ This gave them an enormous amount of power in negotiations. Nintendo withholding or reducing shipments could spell disaster for any company, so even the largest distributors catered to Nintendo's will. The toy industry despised Nintendo, but none more so than some of the other game companies. This hatred would eventually extend all the way to the US Congress.

In the early 90s, the US was suffering from a recession that was in large part blamed on the Japanese. Dominating the huge toy market, Nintendo was naturally at the forefront of this discussion. In 1992, Nintendo was approached by Senator Slade Gorton on behalf of the Seattle Mariners, the baseball team. He asked for Nintendo's aid so the baseball team could avoid relocating. Yamauchi and Arakawa, determined to give something back to the community they were in, eventually made the purchase with Yamauchi as the owner.¹¹⁷ Yamauchi never saw a single game and did not intervene with the club except to place Howard Lincoln in charge later. While Yamauchi would later be lauded as a hero in the community, it was met with protests in both Japan and the US. Japan was upset that Yamauchi was upsetting the strained relationship with the US further, and many Americans saw it as a controversial Japanese company attempting to buy its way into something as all-American as baseball.¹¹⁸ This was to be a tumultuous period for Nintendo with much negative PR through senate investigations, press conferences, and lawsuits.¹¹⁹ It would spell the end of Nintendo's soft monopoly before long, and the period freed up third-party developers to work for Sega and their powerful upcoming console.

3.1.1 The prolonged 8-bit race

The NES is an 8-bit system, meaning that its processor can handle 8 bits of information in one instruction. This was the hallmark of the 3rd generation of consoles, followed by 16-bit

¹¹⁶ Sheff 1994: 202

¹¹⁷ Newhan 1992

¹¹⁸ Kent 2002: 566-570

¹¹⁹ Sheff 1994: 271-276

systems and 32-bit systems in the following eras. This means that, in theory, a 16-bit processor running at 7.67MHz like the main Sega Genesis CPU would be faster than the 1.79MHz NES even if they had the same frequency.¹²⁰ In 1989, both the Sega Genesis and the NEC Turbografx-16 (PC-Engine in Japan) launched. In Europe, the Genesis would be called the Mega Drive. Nintendo at the time did not fear Sega even with their technological advantage, and they proved to be right: the year after, 1990, became Nintendo's most profitable year so far. A lot of this success could once again be attributed to Miyamoto's newest game, this time called *Super Mario Bros 3*.¹²¹ The game crushed all short-term sales records when it came out, and it was the second best-selling game of all time for decades.¹²² Nintendo, however, had become complacent. Sega changed their tactics, and, most importantly, finally found its own identity. It began challenging Nintendo, and it soon became apparent that Nintendo was starting to lose with its old technology in the 16-bit generation. The NES was now 8 years old, and it was growing stale with too many games to choose from, mirroring the doomed Atari market in some ways. In the first half of 1991, NES sales went down a massive 46%.¹²³ Nintendo had two aces up its sleeve, however: The Game Boy, and the Super Famicom (Super NES or SNES).

Gunpei Yokoi, the illustrious Nintendo engineer, had continued working hard: He created the cult classic *Kid Icarus*, based in Greek mythology, and *Metroid*, a difficult, *Alien*-inspired sci-fi adventure that had gaming's first popular heroine. Yokoi was first and foremost a genius inventor, however, and so in 1989 he returned to his and Nintendo's roots:

By 1989, the Game & Watch franchise was dying down. Why buy a whole system (albeit a sliver of one) to play just one game? Yokoi began brainstorming a handheld gaming system with removable cartridges. They'd been tried before, but the results were poor, hard to decipher, and worst of all expensive. Yokoi understood price, hardware, playability, and consumer interest. He could do it.¹²⁴

Handheld games are how Nintendo truly began in the gaming world, and Yokoi wanted to build on that. The Nintendo Game Boy, when first showed off, did not inspire confidence. When Atari engineers saw "its crude, monochrome screen", they laughed at it. No one

¹²⁰ Pettus et al. 2013: 62

¹²¹ Kent 2002: 551

¹²² Nix 2010

¹²³ Herman 2001: 374

¹²⁴ Ryan 2013: 78-79

expected that it would go on to be the best-selling console of all time until 2012 when it was finally bested by the PlayStation 2.¹²⁵

A large part of the Game Boy's initial success was from a game recognized by pretty much everyone today: *Tetris* was created by the humble Soviet mathematician Alexey Pajitnov around 1986. Once word-of-mouth reached Nintendo's Arakawa, he immediately wanted it because "he believed its appeal would cut across all age groups, as well as across the gender line".¹²⁶ Pajitnov worked for the Moscow Academy of Science. At the end of the Cold War era, the iron curtain was still straining communication. Through much miscommunication, a man named Henk Rogers, who had strong ties with Nintendo, managed to snag the rights to *Tetris* for home consoles and handhelds.

The man behind the two companies that lost the rights was none other than billionaire Robert Maxwell, one of the most powerful men in the world at the time, and father to the infamous Ghislaine Maxwell. When the magnate found out he had lost the rights to *Tetris*, he "went ape shit". Robert Maxwell flew to meet Soviet Union leader Mikhail Gorbachev directly, and Maxwell was assured that he would have the rights back. Soon enough, the KGB got involved.¹²⁷ Nintendo did all they could to support Pajitnov's team, and thankfully for them it was almost 1989 and the end of the Soviet Union. Had Gorbachev had his full power, Maxwell might have managed to threaten his way into obtaining *Tetris*, but the end result was that Nintendo held on to the rights.

With its universal appeal, Arakawa was right: Tetris proved to be the perfect game for a handheld console. While the Game Boy was a surprising success, it also extended the 8-bit period even further. People were waiting impatiently for Nintendo's new 16-bit console, which had taken a long time to come out after being announced. After delays, the US was stuck waiting an extra year after the Japanese launch, so it would finally arrive in late 1991.¹²⁸

The Super Famicom launch in Japan on September 21, 1990 affected all of Tokyo. It was chaos. Traffic congestion was everywhere, people called in sick to have a chance at the console, and the lines were filled with tens of thousands of people. Every single Super

¹²⁵ Kent 2002: 425; Sony Interactive Entertainment Inc 2019

¹²⁶ Sheff 1994: 295-296

¹²⁷ Kent 2002: 497-500; Sheff 1994: 305-336

¹²⁸ Herman 2001: 343

Famicom was sold within hours. The violent crowds got so rowdy that “the Japanese government later asked Nintendo and other video game companies to restrict future hardware releases to weekends.”¹²⁹ A year later on August 13, 1991, the Super Nintendo launch was similarly a massive success in the US. Even after retailers bundled the system with extra games, adding on to the \$200 purchase, all SNES consoles sold out within 3 days.¹³⁰ While the library of games for the SNES would arguably be one of the best of all time, it had a meager beginning: 12 games were available at launch which then had to compete against over 100 existing Genesis games. Shigeru Miyamoto, however, once again did not disappoint.

Miyamoto was at this point recognized as the best game creator in the world, and his newest game was called *Super Mario World*. As Kent writes, “‘Too much of a good thing,’ complained one videogame magazine. Others extolled it as the greatest game ever made”.¹³¹ The game was every bit as bright and goofy as before. Mario could, for example, gain a cape that would allow a skilled Mario player to fly indefinitely, and the game is today a popular game for competing in speedrunning contests. It was, however, a later game that would truly popularize the concept of speedrunning: Gunpei Yokoi’s *Super Metroid*. The game included atmospheric exploration on an alien planet, and finding power-ups that strengthened Samus, the female protagonist. The game rewarded players for beating it quickly, and it had a high skill ceiling that allowed for tricks such as “sequence breaking,” by which talented players could skip entire sections of play to go to an area earlier than intended. *Super Metroid* has been in many top 10 lists for best game of all time, and it spawned an entire genre of games called “Metroidvania”, a portmanteau of “Metroid” and “Castlevania”.

Another franchise that must be mentioned also originated on the SNES: *Super Mario Kart*. There are dozens of kart-racing games today that mimic *Mario Kart*, and Guinness World Records called it the “most influential title in gaming history”.¹³² *Mario Kart* revolutionized the racing genre by making it a local multiplayer competition with power-ups and gameplay where drifting skill matters. It is the best-selling racing franchise in the world, with every installment being one of the most popular games on Nintendo consoles. In the end, when

¹²⁹ Kent 2002: 562

¹³⁰ Ryan 2013: 97

¹³¹ Kent 2002: 562–563

¹³² Ryan 2013: 102–103

Nintendo finally joined the 16-bit war, industry insiders thought it would be over for Sega. This might have been prophetic had it not been for a blue hedgehog.

3.2 Sega shifts gears, floors the gas

In 1988, Nakayama and Rosen pivoted Sega's efforts towards the 16-bit generation. Sega signed a two-year licensing deal with the giant toy company Tonka to market the Master System, and then focused on the arcade market for a year. The deal with Tonka proved to be a mistake for a couple of reasons. For one, Nintendo was unbeatable in the 3rd generation. Second, Nakayama marked up Sega's products so much that Tonka made little profit. Third, Tonka had no experience marketing videogames in the first place.¹³³ When Sega finally got their rights back, the new Genesis / Mega Drive was ready. It was time for a new campaign.

First, they approached Atari, now headed by Jack Tramiel of Commodore fame, but he was not interested. The head of Atari's videogame division, Michael Katz, however, took one look and loved the Genesis. Rosen responded by hiring him as Sega of America's second president. There were immediate problems: Nakayama did not like Katz and thought he was a bad people manager.¹³⁴ The end result was that when Sega decided to go at it by themselves, Katz was put in charge but was never given an opportunity to spread his wings. This was one of many examples of internal strife within Sega, showing that there were two companies competing for control. Nonetheless, Nakayama tasked Katz with the Genesis launch. Nakayama gave Katz a rallying cry for the troops: "*Hyakumandai!*", which meant 'one million'—the amount of sold consoles to aim for. Katz, in turn, came up with an aggressive marketing strategy and the slogan "Genesis does what Nintendon't".¹³⁵

When the Genesis launched, it had about a dozen games with an included game *Altered Beast*, one of the biggest arcade hits at the time. Sam Pettus describes the launch:

U.S. gamers could immediately see that the Genesis was an entirely different animal from the aging NES. It was blazingly fast, with eye-popping graphics, stereo sound, and faithful ports of some of the best-known arcade games of its day. There were other, less obvious differences, too: It was black—and black was cool.¹³⁶

¹³³ Harris 2014: 232

¹³⁴ Harris 2013: 233–234

¹³⁵ Kent 2002: 532

¹³⁶ Pettus et al. 2013: 71

Nintendo proved hard to beat, however. Even with the superior technology of the Genesis, Sega only sold 350 000 consoles in the first year. Nakayama blamed Katz and wanted to replace him. Impatiently, Nakayama never consulted with Rosen on whom to replace Katz with as SoA president. The answer turned out to be Mattel's Tom Kalinske. Author Blake Harris interviewed Kalinske about his first meeting with Nakayama:

“[Katz] has no vision for the company. No identity. So all he does is go out and try to buy one.”

Kalinske considered this. “Well, Nintendo has Mario. So naturally you guys should have your own mascot character, someone to crush that little plumber.”

“See! You get it, Tom!” Nakayama said, so thrilled that someone else saw the world the same way.¹³⁷

Mattel had been the largest toy company in the world when Kalinske worked there. He had handled the *Barbie* franchise, and Kalinske had a large part in creating the popular toy series and TV show *He-Man and the Masters of the Universe*.¹³⁸ In other words, Kalinske knew toys. He knew how to create something that would appeal to the US market, and it was under his guidance that Sega's new mascot would take shape. Nakayama had already commissioned the mascot within the company, and the winning entry was a blue hedgehog named Sonic.

Kalinske's SoA team transformed Sonic the Hedgehog into a fitting example of the cultural zeitgeist of the 90s. Sonic was cool, confident, and had a blasé attitude that captured the attention of any teenager who saw him. Kalinske was convinced this could bring Nintendo down from its lofty perch, and he had a four-step plan to make it happen:

- 1) Replace *Altered Beast* with *Sonic the Hedgehog* as the bundled game with the Genesis. This was a move that would cost tens of millions, but it would pay for itself by stealing market share from Nintendo and selling more games later.
- 2) Lower the price of the Genesis to \$149. Kalinske believed in “the Gillette philosophy of giving away the razors in order to sell the blades”. By taking a loss on consoles, they could make more on games and undermine the \$200 SNES before it launched.
- 3) Go all-in on marketing towards teens and college students. By being the cool alternative to Nintendo, there would be no doubt about Sega's identity.

¹³⁷ Harris 2013: 32–33

¹³⁸ Kent 2002: 554

- 4) Let Sega of America alter titles for US demographics. By expanding SoA's budget and agency, it could develop games tailor-made for the US market.¹³⁹

Kalinske's gambit of lowering console prices to sell more games would be his most lasting impact on the industry. Today, all console manufacturers—except Nintendo—follow that playbook. While Nintendo focused more on profiting from console sales, Nintendo did regret not lowering the price of the SNES earlier.

At Kalinske's presentation, the Sega of Japan board of directors thought his whole plan was insane. The reaction made Tom Kalinske think his career was already over: Everyone except Nakayama exploded in fury. Nakayama, however, had made a promise of support when he initially hired Tom Kalinske. Much to the shock of the rest of the board, Kalinske got the go-ahead with his plan.

3.2.1 The underdog seizes victory

Sega never beat Nintendo in Japan, but in the US and Europe, they took the lead. Sonic proved to be every bit as popular as Kalinske had thought, and Sonic was immeasurably crucial to Sega's success. Kalinske's plan unfolded, and in 1992 a barrage of commercials began hitting the airwaves. The Cold War had ended and spirits were high despite the depression. It was the era of MTV with Beavis & Butthead and Michael Jackson. Kalinske knew the audience he was going for and debuted 35 commercials at the 1992 MTV Music Video Awards. The commercials included many variations of the Sega scream, a short clip featuring someone screaming "SEGA!" at the top of their lungs. "Young Bobby Engels has a problem," declared the narrator, "He needs to earn the respect of his peers, so he gets Sega Genesis, the ultimate action system!"¹⁴⁰ The commercials were so effective that today's Sega fans still perform the scream.

While Sonic was by far the most important driver of Sega's success, their most important partnership in this period was also a concerted effort in gaining American acceptance. Sega under Katz had already started focusing on sports games, but they were missing the number one sports games developer: Electronic Arts. EA's president Trip Hawkins had avoided

¹³⁹ Harris 2013: 122–124

¹⁴⁰ Pettus et al. 2013: 90–96

consoles believing computers to be the future, and he hated Nintendo's restrictive licensing contract. When Kalinske approached EA, Hawkins informed them he had already reverse-engineered the Genesis and wanted a special deal. Sega had no choice but to comply, and soon enough the famous *Madden NFL* series was on the Genesis. EA also agreed to help finish Sega's other struggling football game *Joe Montana Football*. These two games were very different, and so Sega had one arcade-style football game (JMF) and a realistic one (Madden) that would both sell millions of copies.¹⁴¹ EA at the time was highly renowned for making popular PC games like *Skate or Die*. With EA came various prestigious partners like Capcom, and suddenly Sega had a powerful position vis-à-vis Nintendo:

By the end of 1993, Nintendo was still playing catch-up. Sega maintained its lead over its rival, and now controlled 56% of the market with over 12 million consoles spread across North America. It also controlled a healthy two-thirds of Europe and showed no signs of giving ground anytime soon.¹⁴²

Sega had done the impossible and toppled the giant Nintendo. Only a few years later, Sega's civil warring would intensify and reverse all their progress.

3.3 4th generation comparative analysis: 1987–1993

3.3.1 Lost levels of influence

By far the most important factor in this chapter is Nintendo's monopoly, even if they did lose it by the end. When Nintendo was at its most powerful and controlling, the US found itself on the other side of the gunboat diplomacy it had once employed towards Japan. It was a time of unrest between Japan and the US with divisive novels such as Michael Crichton's *Rising Sun*.¹⁴³ Retailers and developers were not able to say no out of fear of reprisal from the 900-pound gorilla in the room—and it was not even an American gorilla. Without the support of third-party developers or a brand of their own, Sega gave up on the 8-bit generation which Nintendo so clearly ruled. Nintendo had played its hand perfectly at the beginnings of its empire, and the end result was a soft monopoly. The *Nintendo Power* gambit made them so indispensable among kids that it simply left no room for competitors. The magazine was not

¹⁴¹ Kent 2002: 534; Pettus et al. 2013: 72–73

¹⁴² Pettus et al. 2013: 103

¹⁴³ Ryan 2013: 103

just a lucky break, however: It could be considered an intentionally crafted piece of propaganda. It ran no ads, but it was essentially one giant ad for Nintendo. Everything about it was community building to lure kids into the world of Nintendo. Japan has for decades understood print media quite well, and even things such as font, color, and style were massively changed to fit the American audience.¹⁴⁴ In 1988, there was no YouTube or Google to look up gameplay videos or reviews, so *Nintendo Power* served as trailers for new games while also providing game hints and maps. The knowledge Nintendo gained from *Nintendo Power* was as valuable as a massive, continuous study on what kids wanted, and it fueled Nintendo's future attempts at being inclusive. Neither Sega nor any other competitors had anything like it, but Sega would learn a lesson from this. The first day on the job, SoA president Tom Kalinske was handed a giant dossier on Nintendo. Through building on this treasure trove of knowledge borne from monopolistic tactics, he knew how to counter Nintendo with his own ad campaigns and business strategies.

For both good and ill, the more popular Nintendo got, the more attention they drew to videogames. Indeed, "Some seriously ill children in a hospital who played Nintendo required half as much pain medication as those who didn't.", writes Sheff. This was as alarming to parents as it was beneficial to the children. While superstar Oprah Winfrey called the phenomenon "Nintendo zombies", the U.S. military saw that Nintendo-playing recruits excelled in flight-training programs.¹⁴⁵ Nintendo brought a paradigm shift that highlighted a conversation we are still having today: What good are videogames? In the 80s, "mindless entertainment for children" was widely the answer.

Especially in Japan, games were for children. They had the 17th-century concept of "*jyukyū*, a system of ethics which held that the most important values were hard work, thriftiness, and seriousness, and that luxury and leisure were a waste of time".¹⁴⁶ This made it difficult for Nintendo to be inclusive at first, but as they grew, they learned how many people of all ages played games—especially the Game Boy. In fact, 46 percent of Game Boy players in the West were adults.¹⁴⁷ Sega, on the other hand, immediately set their sights on teenagers and

¹⁴⁴ Acks et al. 2020b: Episode 2

¹⁴⁵ Sheff 1994: 206

¹⁴⁶ Sheff 1994: 293

¹⁴⁷ Sheff 1994: 339

young adults; they never had any intention of courting the saturated children's market. It was a shift of focus that seemed to benefit Sega at the time. Throughout the 90s, videogames were still considered the domain of children, however. Nintendo's focus on being family friendly thus lost to Sega's countercultural approach in this generation, and it was one of the factors for Sega's then success. Ultimately, the videogame controversy brought on by Nintendo would culminate in lawsuits when videogames started getting more and more violent. Lawsuits and the videogame industry had gone hand in hand since the beginning. Two of these lawsuits would affect the US even today, and they included both Nintendo and Sega.

In 1987, the Atari Games division would be bought by Hideyuki Nakajima, a former executive from Namco, and he would create the subsidiary company "Tengen" to publish games on the NES.¹⁴⁸ Nakajima knew Atari's vast library of games would be of interest to Nintendo, but he did not like their restrictive licensing agreement.

Nakajima had an ulterior motive when he continued pushing Arakawa for information about Nintendo's business: Atari was secretly reverse-engineering the NES in order to challenge Nintendo's monopoly. The security chip was called "10NES programming", and Atari had trouble cracking it. In response, they made a bogus lawsuit to get the blueprint from the Copyright Office, allowing them to beat Nintendo's security. Atari then later filed an actual lawsuit against Nintendo, claiming monopolistic business practices.¹⁴⁹ Because Atari had reverse-engineered the NES illegally, they lost the suit. The most important result was that reverse-engineering itself was deemed as acceptable. In the similar case of Sega vs Accolade, the precedent was set that reverse-engineering was "fair use of the copyrighted work, as a matter of law".¹⁵⁰ While Tengen unsuccessfully challenged Nintendo's monopoly directly, too many other factors were in play.

Nintendo would face other antitrust lawsuits that it would lose, and even the Federal Trade Commission got involved.¹⁵¹ The end result was that Nintendo had to abandon its

¹⁴⁸ Kent 2002: 490

¹⁴⁹ Kent 2002: 491-493

¹⁵⁰ Pettus et al. 2013: 110-111

¹⁵¹ Sheff 1994: 269-274

monopolistic practices of one-sided, exclusive contracts. This enabled third-party companies such as Capcom to create games for the Genesis, like their mass-hit *Strider* game.

There is a lot to be said about *laissez faire* economics, but it is easy to argue that competition benefitted the consumer in this case. Had Nintendo continued being unstoppable, innovation would have slowed down to a crawl, and we would have seen even more years of outdated 8-bit technology. With how much effort, time, and money Nintendo had poured into the NES over its lifespan, they only reluctantly joined the 16-bit generation because they had to. For Sega, 16-bit was their main focus all along, and Nintendo underestimated them. In this chapter, Sega shows how technology can drive development. The loss of Nintendo's monopoly allowed Sega's first-mover, risky hardware project the Genesis to flourish because of Tom Kalinske's insight into the toy industry. It was a perfect storm of advantages, and Sega arguably won the generation as a result.

3.3.2 Sega's need to go fast

Unlike Nintendo, Sega embraced new technology and was in some ways the *avant-garde* of the videogame industry. While Nintendo was still amazingly innovative with the games themselves, Sega was the one to take risks with the hardware. This would prove to be a double-edged sword for Sega in the SNES/Genesis era. Before the Genesis had truly matured, Sega was already working on future technologies like the Sega-CD (Mega-CD in Europe). CD-ROM had matured a lot as a technology by the 90s and was starting to get cheap enough to be considered for gaming consoles. With 2000 times more storage than traditional cartridges, CDs allowed for cinematic experiences; it was a large enough canvas that games could now start heading into three-dimensional worlds.¹⁵²

The Sega-CD was an addon to the Genesis that when placed underneath added an extra processor and the CD-ROM itself, though only at 1x speed. When the Sega-CD hit the US in October 1992, it cost \$300. Sega further made a deal with JVC to make the WonderMega, a Mega-Drive with a built-in CD-player, and this one cost a hefty \$600.¹⁵³ The price was a problem, but it was not the main one. While the Sega-CD garnered a lot of hype for the future

¹⁵² Pettus et al. 2013: 146–147; Herman 2001: 237

¹⁵³ Herman 2001: 398–400

of gaming, it was not a success because it never got a library of good games. Just like the Genesis, the Sega-CD had a lackluster start—but unlike the Genesis it never got better. It had some noteworthy games like the JRPG (Japanese role-playing game) *Lunar*, and *Snatcher*, a remarkable cyberpunk RPG.¹⁵⁴ Overall, however, the quality was low: There was entirely too much focus on full-motion video (FMV) and not enough on the gameplay. Though a failure in the end, the Sega-CD had been started before the Genesis took off and surpassed the SNES, proving just how ambitious Sega was in overtaking Nintendo.

Nintendo, on the other hand, stuck to their guns until too late. Legendary Gunpei Yokoi believed in the philosophy *kareta gijutsu no suihei shikou*, which translates to “The Nintendo way of adapting technology is not to look for the state of the art but to utilize mature technology that can be mass-produced cheaply”.¹⁵⁵ Even after Yokoi passed away, Nintendo continued believing in this philosophy. It was the reason the NES had such a long run, and it was the reason Nintendo decided to abandon its plans for a CD-based console of their own and focus on cartridges for the future. The end result was that Nintendo arrived late for both the 4th and the 5th generation. This sort of thinking is also why they abandoned backwards compatibility on the SNES, which was originally planned and promised. Doing so would have increased the cost of the SNES by \$75, which Nintendo president Yamauchi rejected.¹⁵⁶ The Genesis came with full backwards compatibility, meaning it could play Master System games as well, but all SNES owners would have to also own an NES to play the giant library of games on it. Furthermore, Nintendo did not see Sega as a legitimate threat until it was too late. Yamauchi had been quoted saying “Sega is nothing,” “a quote that ended up pasted onto many Sega employees’ doors.”¹⁵⁷ It can be argued Nintendo had become arrogant through their monopolistic practices, and this plus their desire to work with trusted technology prevented them from joining the next generation fast enough. As a result, Sega not only caught up but surpassed Nintendo.

Sega’s Tom Kalinske would say that Sega won the 4th generation, but the SNES library would continue to improve over time compared to that of the Genesis. Early on, Sonic was such a

¹⁵⁴ Pettus et al. 2013: 178

¹⁵⁵ Sheff 1994: 28; Ryan 2013: 79

¹⁵⁶ Ryan 2013: 94–95

¹⁵⁷ Ryan 2013: 88

mega-hit that not even Miyamoto's *Super Mario World* could prevent Sega taking the lead. For years, Sega president Nakayama had privately sulked, "Ah, if only we had the likes of Shigeru Miyamoto on our staff!"¹⁵⁸ As it turns out, Sega already had at least two remarkably skilled game developers, and one of them was the perfectionist Yuji Naka. A big fan of *Super Mario Bros*, Yuji Naka had often practiced running the levels as fast as he could. Naka wanted to create a game based on roller coasters, and so speed would be Sonic's focus.¹⁵⁹ As a result, *Sonic the Hedgehog* was a game that broke the speed barriers when it came out. Sonic created a feeling of sprinting through levels and collecting rings that was highly addictive, and his cleverly crafted persona appealed to Generation X teens more than even Mario. In a study by Sega, 80 percent of kids preferred Sonic over Mario. An independent study similarly showed 7 out of 10 kids preferring *Sonic the Hedgehog*—even though critics said *Super Mario World* was the better game.¹⁶⁰ Regardless of that debate, both companies had great games, and some of them were shared.

Yoshiki Okamoto was a genius game designer at Capcom. He made many classic games such as *1942* and *Final Fight*. But his biggest hit game spawned an enduring revolution in gaming, and Nintendo was lucky enough to secure a one-year exclusivity deal ahead of Sega. The game was called *Street Fighter II*. It was a game designed for 2-player competitive fighting using a diverse cast of superpowered misfits. From the fire-breathing yogi Dhalsim to the feral, electrifying creature Blanka, Okamoto had created a franchise that reinvigorated the arcades.¹⁶¹ For Sega, this was quite the boon. In 1992, it had also been over half a decade since the last true arcade hit, and now a throng of players swarmed the dying arcades to fight friends and family. SF2 established the fighting genre, which instantly became popular. It was such an important game that Sega replaced their default 3-button controller with a 6-button controller specifically because of it.

Ultimately, one thing was certain: Nintendo and Sega stood out. It was not due to a lack of trying that competitors failed, because there were many. There were the VHS-based View-Master Interactive Vision, the Konix Multi-System, the \$400 SNK Neo Geo, the Phillips CD-

¹⁵⁸ Pettus et al. 2013: 80

¹⁵⁹ Acks et al. 2020c: Episode 3

¹⁶⁰ Harris 2014: 166–167

¹⁶¹ Kent 2002: 575–581

i, the Panasonic 3DO, the Atari Jaguar, the Watari Supervision, and the Amiga 32. Hordes of competitors, and all of them failed to beat Nintendo and Sega. The only one to worry Nintendo was the NEC Turbografx-16/PC-Engine. NEC would beat Sega in Japan but eventually pulled out of the videogame business. Even Sega was bested in the handheld market, however. The NEC TurboExpress, Atari Lynx, and Sega's Game Gear could not compete with the battery-efficient, low-price, and low-weight Game Boy—not to mention its game library including Mario and Zelda.¹⁶² In the end, that was what mattered most: the games. Though marketing is highly important, as shown with the example of Sega beating Nintendo in Europe, the game library was what the competitors lacked. Even the Panasonic 3DO, backed by mighty EA president Trip Hawkins, did not scare Nintendo: “The first-party games are the products that differentiate your hardware”, Howard Lincoln said.¹⁶³ To this day, Nintendo has relied on Miyamoto and other in-house game creators to uphold this mantra. By contrast, Atari helping cause the videogame crash of '83 could be attributed to Ray Kassar and his business-minded bosses forcing Atari to churn out games like the horrendous *E.T.* and rushed *Pac-Man* port. In the gaming industry, there is a famous quote by Shigeru Miyamoto: “A delayed game is eventually good, but a rushed game is forever bad”. The philosophy of Miyamoto is simple: He believes videogames are an art form just as worthy of respect as others. For him, it is about the emotions, not the business:

“When you draw a laughing face, your face should laugh,” [Miyamoto] once explained in an interview. When you draw an angry face, your face should be angry. The character will capture your emotion. The emotions and fun in a game are not made while thinking about business.”¹⁶⁴

In a sense, when Atari crashed, it was because the gaming industry was no longer by people who actually cared about games. Atari's core staff that loved making games had all but left to form other companies or even abandoned the videogame industry altogether. Likewise, when competitors tried to be the David to Nintendo's Goliath, they lacked the playful Miyamoto and the provocative Naka. It was only when Sonic sprinted past that Mario had a rival.

¹⁶² Herman 2001: 335–445

¹⁶³ Kent 2002: 465

¹⁶⁴ Kent 2002: 683

Chapter 4: The end of an era: Fading Japanese influence (1993–2001)

4.1 Gorilla endurance

The period near the turn of the century was hallmarked by many failures from both Nintendo and Sega. For Nintendo, one of the perceived largest mistakes in the company's history happened earlier, in 1991. It would have repercussions to this day. While Sega was quick to release their Sega-CD, Nintendo also had ambitious plans for a SNES-CD addon of their own. It was to be called the Nintendo PlayStation. In partnering with Sony, Nintendo hoped to build on the vast experience of the co-inventor of CDs.¹⁶⁵ At Sony, the PlayStation's project leader Ken Kutaragi had the ulterior motive of wanting to enter the videogame business. Nintendo feared Sony's intentions and laid a trap for them. At the CES in 1991, Sony announced the partnership with Nintendo and their joint release of the Nintendo PlayStation, coming late 1992. The following day, the announcement made by Nintendo astonished not only reporters but Sony executives in the audience as well: Nintendo would be partnering with Phillips for their new CD-based console. The stunt was carefully orchestrated to publicly humiliate Sony, and it did:

Sony's president Norio Ohga was furious and, egged on by Kutaragi, decided to seek revenge by creating Sony Computer Entertainment, a new division headed by Kutaragi that would take Sony into the game console business. The result was the Sony PlayStation, a console that married the two biggest technological developments for video games in the 1990s: CD storage and state-of-the-art 3D graphics.¹⁶⁶

In attempting to prevent a future rival, Nintendo had created what would be their worst and most bitter one. While Sony would no doubt have later struck out on their own regardless, the sour relations between Sony and Nintendo still linger to this day. If not for this, they would have been strong partners throughout the entire 5th generation of consoles. Years later, Howard Lincoln and Peter Main both agree that there was an upside: Just like a rising tide lifts all ships, Sony's strong entry into the market grew the entire industry.¹⁶⁷ Nintendo would still endure this coming Sony storm, and it would once again be their game library that saved them.

¹⁶⁵ Sony and Phillips co-developed the Digital Audio Compact Disc in 1982, now colloquially known as the CD.

¹⁶⁶ Donovan 2018

¹⁶⁷ Sheff 1994: 447–448

The partnership with Phillips did not pan out either; Nintendo instead set its sights on a new 64-bit machine nicknamed “Project Reality”, in partnership with Silicon Graphics, a leading computer tech company. Nintendo’s new console would suffer many delays, and their reputation suffered for it.¹⁶⁸ Throughout 1994, Nintendo still struggled with sales numbers. It was looking to be a bad year until an old friend saved the day.

Nintendo had a second-party developer named Rare which had made some of the most popular games on the NES such as *Double Dragon* and *Battletoads*. The company was started by the Stamper brothers Tim and Chris, and they became so reliable for Nintendo that it entrusted Rare with the grand return of an old friend and flagship title: Donkey Kong. The game was called *Donkey Kong Country*, and it had more effort put into it than any game in history: 22 years’ worth of manhours. Rare had £80000 computers where they designed elaborate 3D. They then meticulously imported the designs into the game, compressing and manipulating them to fit the SNES cartridges.¹⁶⁹ The result was a game that broke records: “The first time I saw Donkey Kong Country, I realized that Super NES could do everything that Nintendo said it could do”, said 3DO employee RJ Mikal.¹⁷⁰ It became the fastest-selling game in history, selling over 6 million copies in 45 days:

It established the Super NES as the better 16-bit console and paved the way for Nintendo to win the waning years of the 16-bit generation. More important, Donkey Kong Country sounded the death knell for Jaguar and 3DO by convincing consumers that the first systems in the next generation of game consoles had little to offer that could not be found on Super NES.¹⁷¹

While Nintendo’s gorilla thus saved 1994, the following year would prove disastrous. Sony’s PlayStation was hogging all the attention at the 1995 CES, and Nintendo also announced another delay for their console. More importantly, Nintendo also introduced the infamous Virtual Boy system. The Virtual Boy was Gunpei Yokoi’s brainchild and a successor to the Game Boy. It was a creative system that created a 3D effect by utilizing stereoscopic LED technology using red on a black background. While the theory was good, it proved to be clunky: It required a stand, and people reported headaches when using it. The game library

¹⁶⁸ Herman 2001: 436–437

¹⁶⁹ Shesez 2019

¹⁷⁰ Kent 2002: 638

¹⁷¹ Morris 1995: 32; Kent 2002: 643–644

was also mediocre for a Nintendo product, and it soon became known as Nintendo's biggest flop.¹⁷² Yokoi had staked his reputation on the Virtual Boy, so its failure meant facing the Japanese tradition of *madogiwazoku*, which meant exile from the group.¹⁷³ For someone as important as Yokoi, it would have been temporary, but he decided to quit the following year regardless. Some sources, like Sam Pettus' *Service Games*, claim that Yokoi was forced to resign, but this contradicts other sources including Yokoi himself. At his new company, Koto, he was quickly hired as a consultant for Nintendo, after all.¹⁷⁴ The father of the Game Boy, Gunpei Yokoi unfortunately died in a car crash in 1997. Gunpei's many innovative successes had built up Nintendo from the beginning. Without their workhorse, Nintendo trudged on towards their new console a little slower than before.

4.1.1 Fantasy canvas

Nintendo's new console went from "Project Reality" to "Ultra 64", but Nintendo ultimately decided to keep their name on the product, so in late 1996, the Nintendo 64 finally arrived. It faced an enormous challenge due to the Sony PlayStation having a head-start of a whole year. Sony's immediate success is a saga of its own. As EA founder Trip Hawkins said, "For a company that is so new to the industry, I would have hoped that Sony would have made more mistakes by now".¹⁷⁵ Sony had a groundbreakingly strong console that was easy to program for, and they released it with 17 games, three of which stood out: *WipeOut*, *Ridge Racer*, and *Battle-Arena Toshinden*.¹⁷⁶ Nintendo's console would in many ways be stronger, but there was one big problem: Storage space.

Nintendo, ever worried about control, decided against using CDs. By sticking with cartridges, they could fight piracy more easily and earn a larger profit. Problem was, CDs cost under a dollar to produce, while Nintendo's cartridges cost companies \$10. While cartridges had 1000 times faster response time, meaning there would be no load times in games, the price and lack

¹⁷² Kent 2002: 663–666

¹⁷³ Ryan 2013: 127; *Madogiwazoku* literally translates into "the tribe that sits by the window". It is a form of corporate purgatory, but it is often temporary shaming.

¹⁷⁴ Pettus et al. 2013: 282; Ryan 2013: 127

¹⁷⁵ Kent 2002: 669

¹⁷⁶ Pettus et al. 2013: 284

of memory available for games meant that Nintendo started losing developers.¹⁷⁷ Nintendo's worst loss was a loyal friend: Squaresoft.

Squaresoft was home to Hironobu Sakaguchi, creator of the most famous RPG series in the world: *Final Fantasy*, which had been highly successful on the NES and SNES. Sakaguchi had for years argued that he could not encapsulate his artistic vision in a format starved of storage space. Since he lamented the fact that storage space in cartridges was a challenge for his creative endeavors, when Nintendo chose to forego CDs, all of Squaresoft switched to Sony instead. When the gigantic hit *Final Fantasy VII* came out on PlayStation, it was three entire CDs packed to the brim with cinematics and at least 60 hours of gameplay content. It was clear that Sakaguchi had not been overestimating his need for a larger fantasy canvas. The game was so popular that many Japanese players bought a PlayStation solely for the game; 90% of PlayStation owners had FFVII, a maddening 2.5 million copies sold in only three days, and it became the best-selling game in the world in 1997.¹⁷⁸

Nintendo's choice to remain with cartridges and their consequent loss of developers is often considered one of their worst mistakes. It caused a panic within Nintendo, who would now have to rely on their in-house game development teams even more. Thankfully for Nintendo, with Rare and Miyamoto on board, they would survive. The entire console launch for Nintendo 64 was in fact delayed because Miyamoto was not done with his new game *Super Mario 64*. While Yuji Naka wanted the feeling of roller-coasters, Shigeru Miyamoto wanted an amusement park, and when *Mario 64* came out, it was considered the best open-world 3D the world had ever seen. More revolutionary than anything else, however, was the N64 controller. In the odd form of a trident head, the controller could be held in different ways. It had two revolutionary features that would forever change gaming controllers just like Nintendo had with the NES: The control stick was analog, meaning pressure-sensitive, and it supported a rumble feature.¹⁷⁹ By lightly tapping the control stick, Mario could sneak past enemies. Before long, every other gaming company would come out with similar features for their controllers. Armed with this controller, *Mario 64* aged so well that today it is the most popular game to speedrun due to a high skill cap. A skilled player can complete the game in

¹⁷⁷ Ryan 2013: 137

¹⁷⁸ Kent 2002: 700; Pettus et al. 2013: 328

¹⁷⁹ Kent 2002: 683-684; Ryan 2013: 131-132

under 7 minutes while a casual player requires between 8 to 19 hours.¹⁸⁰ As well, Miyamoto repeated his astonishing feat from his early days by working on a new *Zelda* title at the same time as the new flagship Mario title. *The Legend of Zelda: Ocarina of Time* would go on to be considered the best *Zelda* title, and it outsold every other *Zelda* until *Breath of the Wild* came out in 2017.¹⁸¹

The Nintendo 64 would produce almost solely games that sold in the millions, but that was also because it had fewer games. In this period, Nintendo had to rely on Rare, who created such mega-hits as *Banjo-Kazooie*, featuring the charming bear Banjo's 3D platforming adventures, and *Goldeneye 007*, a first-person-shooter (FPS) game that took the world by storm. Based on the James Bond movie, no one thought it would be popular until it came out and people played it.¹⁸² The game's control scheme and local multiplayer worked so well that it was the only FPS game that managed to tear PC-gamers away from their *Duke Nukem 3D*, *DOOM*, and *Quake*. The Internet had arrived for the PC, and with online multiplayer now an option, it had become harder to lure competitive-minded players back to the couch and TV.

Sony would win the 5th generation. Yet in this period, Nintendo got involved in what would be a sensation like no other. In 1990, a man named Satoshi Tajiri working at the company Game Freak wanted to create a game that encapsulated his childhood in Japan. He loved catching bugs, and he wanted a game where the player could capture and trade "Pocket Monsters". He met with Nintendo's Shigeru Miyamoto, who was looking for an interesting way to use the Game Boy's link cable connect games, and Miyamoto liked what he saw. Under Miyamoto's tutelage, Tajiri created *Pokémon Red* and *Green*, and to catch all the monsters, players had to trade between the two games.¹⁸³ Nintendo launched Pokémon outside Japan with the new Game Boy Color in 1998 as *Pokémon Red* and *Blue*. The success of Pokémon would break all records. It became the most popular children's show in Japan; it spawned the top-selling trading card game in the world; and it became the highest-grossing media franchise of all time, beating out Mickey Mouse, Star Wars, and the entire Marvel

¹⁸⁰ Frank 2018; Dell-Cornejo 2020

¹⁸¹ Celine 2017

¹⁸² McLaughlin 2012

¹⁸³ Larimer 1999

universe.¹⁸⁴ While Nintendo lost in the 5th generation of consoles, they made up for this with the return of their handheld consoles boosted by the massive popularity of Pokémon.

In the 6th generation, come 2001 Nintendo would launch the project known as “Dolphin”: the Nintendo GameCube. This was accompanied by launching the Game Boy Advance, and from this point forward, Nintendo would put just as much effort into their handheld consoles as their home consoles. The GameCube used a proprietary disc format that prevented piracy, which helped keep costs down and profits high. It was in this generation it started getting difficult to compare technical specs of consoles, but the GameCube was technically the weakest of the bunch—especially when Microsoft arrived with the Xbox.¹⁸⁵ Despite this, Nintendo would continue their fight with Sony and Microsoft in future generations. Sega, on the other hand, faced challenges that would bring them to their knees.

4.2 False starts and a system of failures

After their success in the early 90s, Sega would expand into many different projects for the next few years. With its effective marketing and the popular Genesis, Sega had a feeling of being indestructible just like Nintendo before it. With Sonic on their side and games such as *Disney's Aladdin*, *Gunstar Heroes*, and *Streets of Rage*, Sega was at the top of their game. There were two games, however, that ended up a double-edged sword for Sega, and they would have a lasting impact on the entire industry.

The first game to cause trouble was *Night Trap*; it was a 1992 Sega CD FMV-game that had vampires hunting young women in a mansion. The other game was *Mortal Kombat*, created by Ed Boon and John Tobias. The “fatalities” in *Mortal Kombat* are infamous to this day. When the opponent had all but lost, the player could input commands to finish off the enemy. One ninja would take his mask off and burn the opponent to a crisp, while another cyborg would rip the enemy’s arms off. The two games were so controversial that they ended up the subject of a senate hearing in the US. The whole incident has been said to have been spurred on by a disgruntled Nintendo that wanted to create bad publicity for Sega. The end result of the whole ordeal was that *Night Trap* was pulled from all retailers, and Sega took a lead in

¹⁸⁴ Hallman (n.d.)

¹⁸⁵ Ryan 2013: 147–148

creating the Entertainment Standards Review Board (ESRB). The industry forever changed that day with a new rating system for violent videogames that we still use today.¹⁸⁶ *Mortal Kombat* came out on both the SNES and the Genesis, but because Nintendo took the high road and censored fatalities, the Genesis version sold three times as many copies.¹⁸⁷

Nintendo's stance did not last, however: They quickly realized their mistake and quietly removed the censorship, effectively making them just as bloody as Sega while still retaining their public image as family-friendly.

The ESRB debacle would not be the only bad publicity for Sega. From 1994, Sega would make so many mistakes that their reputation for excellence would all but disappear. Sega's many risky hardware projects contributed to this, all of which had a planet name, such as the "Mercury" project: The Sega Game Gear. The two most important ones, however, were Project Mars and Project Saturn.¹⁸⁸

The Mars project's final name was the Sega 32X. It was conceived by Sega president Hayao Nakayama because he feared the upcoming Atari Jaguar and wanted a stopgap measure. Like the Sega CD, the 32X was a permanent addon for the Genesis that would allow for 32-bit gaming. The problem was, Sega's other project was the next-generation console Sega Saturn, and it was being developed at the same time. In fact, it would come out in Japan in the same year, 1994, making it difficult to justify the purchase to consumers. Former technical director at Sega, Scott Bayless, had some strong words about this: "The 32X just made us look greedy and dumb to consumers", and "That really was the beginning of the end for Sega's credibility as a hardware company...[Sega's hardware decision] was like watching the Hindenburg in slow motion".¹⁸⁹ While the rushed 32X sold well at first, it was paid for by Sega's reputation not only among consumers but also among developers who were tired of Sega's many different systems. Another project called Neptune, a combination Genesis/Sega-CD/32X, was cancelled. The 32X thus became a sore footnote for Sega as they prepared to launch their actual 32-bit flagship console: The Sega Saturn.

¹⁸⁶ Kent 2002: 600–622; Pettus et al. 2013: 168–170

¹⁸⁷ Kent 2002: 604–605

¹⁸⁸ Sega Retro 2008

¹⁸⁹ McFerran 2010: 45–49

Before the launch, however, there were two important events that took place. First, after Nintendo abandoned Sony, the humiliated Sony sought other partners, and the natural choice was Sega. It was by most accounts a splendid deal: Sony would get access to Sega's gaming industry knowledge and be associated with strong software, and Sega would get a much needed financial boost while splitting the hardware costs. The deal was accepted all the way up the highest levels of Sony. Once it reached Nakayama's desk, however, it was promptly turned down—forever dooming the possibility of a Sega PlayStation.¹⁹⁰ President of Sega of America Tom Kalinske later called it “the stupidest decision ever made in the history of business,” and he “didn't feel they were capable of making the correct decisions in Japan any longer”.¹⁹¹ The schism between Sega of Japan and Sega of America was thus already wide before the Sega Saturn had even launched.

Second, both the PlayStation and the upcoming Sega Saturn were planned as strong 2D systems with a minor capability to do 3D. This would change during development because of Sega's arcade engineer and genius programmer Yu Suzuki. In terms of value to Sega, Suzuki rivaled and likely even surpassed Yuji Naka, creator of Sonic. Not only had Suzuki created some of the most popular arcade games of all time like *Hang-On*, *After Burner*, and *Out Run*, he was also involved in making all the most successful arcade boards in the industry.¹⁹² In the aftermath of *Street Fighter 2*, Suzuki's new 1993 game would also be one of the most influential in history: It was called *Virtua Fighter*. When making the game, Suzuki had enrolled his entire team into martial arts, flown to China, and repeatedly watched Bruce Lee movies frame-by-frame. Most importantly, he created an impressive 3D graphics engine that showed the world that 3D was already possible with the right technology.¹⁹³ The game was such a smash-hit that both Sony and Sega changed their consoles into 3D powerhouses before launch. Had *Donkey Kong Country* not come out the following year, Nintendo would have looked ancient by comparison.

¹⁹⁰ Pettus et al. 2013: 250

¹⁹¹ Good 2015

¹⁹² Mielke 2012; Kent 2002: 647; Next Generation 1996: 12; In the same interview, Suzuki joked that “If Miyamoto was the father of gaming, I suppose that makes me the mother”.

¹⁹³ Horowitz 2018: 307–308

4.2.1 Sega's inner turmoil

When the Sega Saturn launched in Japan on November 22, 1994, the launch was a success due to *Virtua Fighter* selling with almost every console.¹⁹⁴ It continued to sell better than even the PlayStation until *Final Fantasy VII* came out in 1997 and tipped the balance. Saturn continuing to do well in Japan would actually prove to be part of Sega's downfall; it convinced the Japanese leadership they had a hit product that would work everywhere. The Saturn was supposed to launch in the US by year's end in 1995. Because of the success in Japan and fear of PlayStation in the US, Sega president Nakayama told Sega of America's Tom Kalinske to launch the Saturn early. He loudly protested this, but Nakayama would not budge. The industry had at this point moved to a special show called the Electronic Entertainment Expo (E3), and celebrities like George Lucas and Steven Spielberg backed the vendors. At the Sega keynote in May 1995, Kalinske delivered a speech that shocked the audience and was one of the most memorable events in E3 history: The Sega Saturn was already available in stores at a price of \$399.¹⁹⁵

It might have worked out in Sega's favor had it not been for the *most* memorable event in E3 history, which followed right after. Sony's Olaf Olafsson held a speech about the technical power of the PlayStation, and then he invited their head of development Steve Race to say a few words about the price. Race had a whole speech prepared, but he ditched it, walked onto the stage, and simply said one word: \$299. It was "the price heard around the world". As he walked off the stage, the crowd erupted in applause while the Sega executives stood in shock. It had generally been accepted that the PlayStation would cost the same as the Saturn, and this price point was entirely unexpected and detrimental to Sega.¹⁹⁶ Steve Race had worked closely with Kalinske at Sega before he changed jobs, and it was symbolic as well that pop star Michael Jackson, having long worked with Sega, showed up at the E3 Sony booth to help promote the PlayStation. Sony was now overtaking Sega the same way Sega had overtaken Nintendo.

¹⁹⁴ Kent 2002: 647

¹⁹⁵ Pettus et al. 2013: 276-277

¹⁹⁶ Kent 2002: 667-668; Pettus et al. 2013: 277; Tom Kalinske admitted in an interview later that when he heard \$299, he turned to Paul Rioux, vice-president of SoA, and said: "Oh, shit."

The early Saturn launch had dire consequences beyond highlighting the price difference. It annoyed smaller retailers by only launching at the big retailers first, and it annoyed third-party developers who thought they had until the end of 1995 to finish their games. Most of all, it annoyed Tom Kalinske: "The Japanese are making the decisions for the U.S. market," Kalinske complained, "and they do not know what they are doing".¹⁹⁷ When the PlayStation launched on September 9th, things played out as Kalinske feared: In just two days, more PlayStations sold than Saturns had sold in the five month head-start.¹⁹⁸ Tom Kalinske left Sega the following year, as did most of his staff. This was followed by the resignation of Sega cofounder David Rosen, and Sega president Hayao Nakayama honored Rosen by resigning the SoA co-chairman position. Game designer Michael Latham said in the aftermath: "It wasn't the failure of Saturn that made [Kalinske] lose interest; it was the inability to do something about it. He was not allowed to do anything. The U.S. side was basically no longer in control".¹⁹⁹ Massive change was needed in Sega, and it was about to happen.

The chairman position for Sega of America was filled by Shoichiro Irimajiri, a former Honda CEO. Veteran toy expert Tom Kalinske was replaced by Bernard "Bernie" Stolar, a highly controversial figure who would become the lightning rod for hatred from devoted Sega fans. Bernie Stolar had worked as president of Atari and worked at Sony during the PlayStation launch, but he was let go.²⁰⁰ Stolar initially had the support of the most powerful ally in Sega of Japan, a man named Isao Okawa. While Nakayama had been allowed to make all the decisions all these years, the actual person in charge behind Sega was the leading chairman Okawa who had invested in Sega back in 1984. After the recent failures, Okawa was tired of Nakayama's poor decision making and took a more active role to ensure Sega's financial decisions improved.²⁰¹ In early 1997, Sega was a distant third in the US. Outside Japan, the Saturn already started looking like a failure. Sega remained optimistic and set their sights on their next console, but by 1998 it was already looking grim for their finances.²⁰²

¹⁹⁷ Pettus et al. 2013: 256

¹⁹⁸ Kent 2002: 671

¹⁹⁹ Kent 2002: 691

²⁰⁰ Pettus et al. 2013: 299; Herman 2001: 399

²⁰¹ Pettus et al. 2013: 312-315

²⁰² Herman 2001: 437-439, 466

Before this, Nakayama felt responsible for Sega's predicament and wanted to make amends, so he set up a merger with toy giant Bandai, the largest toy company in Japan and third in the world. While talks looked promising for a while, it ended in failure. For one, Sega's financial situation did not inspire confidence. Two, Sega's managerial style was a mismatch with the ultraconservative Bandai's. Three, Nakayama himself was no longer trusted to be in charge of Sega by the Bandai leadership. Four, Bandai invented a hit product halfway through negotiations: *Tamagotchi*. In the end, Sega needed Bandai much more than Bandai needed Sega. The failed merger caused the long-time CEO of Bandai, Makoto Yamashina, to resign his position in shame. It was the final straw for the disgraced Nakayama who resigned and left Sega entirely by mid-1998.²⁰³ It was the end of an era of autocratic leadership, but Okawa would take up the torch and continue in the same style in the final chapter of Sega's fall.

In 1997, barely 2 years into the life-span of the Saturn, Bernie Stolar said at E3 that "The Saturn was not in [Sega's] future". The statement earned the ire of many diehard Sega fans, and it also annoyed many allies who had put a lot of effort into the Saturn.²⁰⁴ There was one publisher in particular that harbored great resentment towards Stolar: Victor Ireland, president of Working Designs. It had published many RPG titles such as the hit *Lunar*, but the problem was that Stolar had no interest in RPGs and thought they sold poorly. Combine this with the fact that Ireland blamed Stolar for giving him a tiny booth space at E3 1997, and the end result was that they furiously cut ties with Sega entirely. Working Designs would go on to localize and publish popular games such as *Grandia*—but that privilege now belonged to Sony PlayStation. Stolar and Sega lost respect in the gaming community for these decisions, but there was another policy that Stolar was hated for that was not his fault: The Five Star Games policy. It was created to ensure only quality games were imported to the US, but it was ultimately blamed for the US never receiving some of the great Japanese games like *Radiant Silvergun*. The problem was, this was not a policy that Stolar had any control over: All decision-making regarding imports was done by Sega of Japan.²⁰⁵ Still, Stolar was a hot topic on the early Internet forums of the day, and Sega was becoming more and more unpopular.

²⁰³ Pettus et al. 2013: 319, 322–323

²⁰⁴ Herman 2001: 444–445

²⁰⁵ Pettus et al. 2013: 323–327

4.2.2 The fall

Sega would only get one more chance to make it right, and it was named the Sega Dreamcast. One of the many reasons the Saturn had failed was that it lacked a proper Sonic game. Sega's Yuji Naka instead made the Sega Saturn flagship title *NiGHTS: Into Dreams*, a surrealistic adventure game. It was a hit, but Sega fans missed Sonic. The intention was for there to be a Saturn Sonic, but it ran into many production problems. When Yuji Naka found out the Sega Technical Institute (STI) development team was using his *NiGHTS* engine for the Sonic 3D game, he balked and development had to restart. The game eventually went through five different planned releases before eventually landing on the PC—and then it was cancelled. This meant Sonic fans had to be without a proper Sonic title for five years.²⁰⁶ With all the other problems with the Saturn, Sega's consumer base had lost faith in Sega. Haruki Satomi, Sega's CEO in 2015, admitted that Sega lost a lot of consumer trust in the 90s and that their goal ever since has been to regain that trust.²⁰⁷

Before Sega could begin rebuilding that trust, the console had to be made. Sega of America had spent lots of effort on a design nicknamed "Black Belt" using a GPU from the famous 3dfx Voodoo2. The Black Belt development team was stunned, then, when Sega of Japan made them switch to the "Katana" design with a VideoLogic PowerVR2 GPU. The decision made the entire development team "quit in disgust", and it also cost Sega \$10 million in a consequent lawsuit from 3dfx.²⁰⁸ This exemplifies how even in this new era of Sega leadership, the internal struggles of Sega continued to be a schism that separated East and West.

There could have been a forcible consolidation, however. Microsoft had, in 1995, created DirectX, a game development platform within Windows that allowed easy creation of games. Sega worked closely with Microsoft in porting titles to Windows, and the new Dreamcast would run a modified version of Windows called CE. This gave Microsoft valuable insight into the console business, but it also came with the opportunity to sell Sega to the largest company in the world. Bernie Stolar said in an interview later: "I said to sell them the

²⁰⁶ Pettus et al. 2013: 340–342

²⁰⁷ SATO 2015 citing Satomi

²⁰⁸ Pettus et al. 2013: 383–387

company, and they should have, because then [Sega] could have gotten out of the hardware business clean".²⁰⁹ Sega of Japan refused, and the financial woes continued undermining progress. When choosing a format, Sega chose a proprietary disc system called GD-ROM instead of DVD-ROM, and part of this was due to financial constraints. The disc had less space available, but it was much cheaper to produce and was more easily guarded against piracy. With everything in place and a massive 120 developers backing them, Sega revealed the Sega Dreamcast on May 21st, 1998.²¹⁰

While Sam Pettus briefly mentions it, Steven Kent does not emphasize the importance and background for one lost developer in this time period: Electronic Arts. It was EA that had initially helped the Genesis perform as strongly as it did, but EA would never make games for the Dreamcast. The reason for this was a royalty dispute:

Executives of the Sega parent decided to award Japanese game developers much higher royalty payments than those offered to American developers, the people familiar with the situation say. They say the royalty for Japanese developers was higher even though the American developers did similar work. While such a disparity had existed during the Saturn era, it widened considerably for the Dreamcast, they say. The second-class treatment rankled a traditional Sega ally, Electronic Arts Inc.²¹¹

After an interview with SoA ex-president Bernie Stolar, Sam Pettus believes the reason was a failed deal between Stolar and then-CEO of EA Larry Probst. The deal fell through because EA wanted sports exclusivity on the Dreamcast when Sega had just bought its own sports division.²¹² The failed deal was a matter of poor timing more than anything, but the royalties dispute must have played a large factor as well. The loss of EA was a major defeat before the Dreamcast was even launched.

The November 1998 launch of the Dreamcast in Japan was a mixed success due to production problems and a more lukewarm reception than anticipated. It became more successful with the arrival, finally, of the new Sonic title: *Sonic Adventure*, as well as the hit *Sega Rally 2*. Sega then set its sights on the American launch, heavily advertised as 9/9/99.²¹³ The internal struggles of Sega continued, however. It was rumored that Bernie Stolar and Sega chairman

²⁰⁹ Pettus et al. 2013: 377–378

²¹⁰ Pettus et al. 2013: 387–388, 392

²¹¹ Carlton 1999

²¹² Pettus et al. 2013: 413

²¹³ Kent 2002: 725–727

Okawa were in shouting matches. In an interview on August 6th, Stolar said “Nothing is going to stop us from going to the goal line”. Less than a week later, he was fired.²¹⁴

The US launch of the Dreamcast thus fell on the recent hire Peter Moore to handle. Moore had worked with Reebok before his Sega conscription, and he had a better relationship with Okawa. On 9/9/99, the Dreamcast launched and was quite the success with three times as many preorders as the PlayStation had in 1994. Compared to the Japanese version, the US console came with a 56k modem, reiterating Sega’s commitment to future online play. There were once again some production problems, this time with defective discs, but the success was a welcome surprise in Japan. Meanwhile, troubling rumors for Sega stirred: Microsoft was planning to enter the hardware business with a big splash.²¹⁵ Microsoft had learned valuable insights from Sega on how the game industry worked, and it had noted that its DirectX was readily accepted by developers everywhere. The shadow it cast over the industry was large; Microsoft was the biggest company in the world at the time and could outspend Sony, Nintendo, and Sega all at once. It was, however, facing antitrust lawsuits which hampered its expansion and Xbox development.²¹⁶ It was Sony, though, that was looming closer on the horizon. The upcoming PlayStation 2 (PS2) was to be released in 2000, a year after the US Dreamcast launch.

Still, Sega’s good momentum would continue into 2000 with a record-breaking 250 titles under development for the Dreamcast, including now-classic games such as *Crazy Taxi* and the remarkable *Shenmue*. Created by Yu Suzuki, it was considered “the best-looking game of all time”, and it was also the most expensive. One thing almost ground Sega’s entire momentum to a halt, however. At the end of 1999, Sega chairman Okawa claimed that the Dreamcast would be Sega’s last: they were “getting out of the hardware business”.²¹⁷ Stunned Sega fans all around the world no doubt felt it was yet another betrayal. Even if the Dreamcast had many good games and was by all accounts a good system, this was a slap in the face for loyal fans and developers alike. With the upcoming PS2 launch, the statement was like a gift for Sony. Only a few months later, in May 2000, Sega CEO Irimajiri was replaced by Isao

²¹⁴ Carlton 1999

²¹⁵ Herman 2001: 496–499; Kent 2002: 727

²¹⁶ Pettus et al. 2013: 433–434

²¹⁷ Pettus et al. 2013: 398, 418, 422

Okawa, who also provided Sega with a \$500 million loan.²¹⁸ As the largest shareholder and the financial backbone of Sega, he was the true power behind the company, and he now put himself directly in charge just as the PS2 launched.

The hype for the PS2 was unprecedented and did not bode well for Sega's future. Launching in March and October of 2000 for Japan and the US respectively, the PS2 sold out in mere minutes across the two nations. Demand was so high that people broke into stores to steal PS2s; people carrying PS2s were mugged in the streets; and one person tried to jump off a building to commit suicide when he failed to get a console. DVD sales also doubled overnight, and its DVD capabilities were a major reason the console would go on to be the best-selling console of all time.²¹⁹

It was clear that the lack of a DVD player was a problem, but the quality of the games for the Dreamcast kept it going. Sega had another ace up their sleeve, too: The Internet. Okawa had wanted to create a network for Dreamcast owners to play online, and the Dreamcast was the first to have this. It was called SegaNet, and it kept getting delayed over and over even after the Dreamcast launched. When it finally did launch, it was accompanied by a price cut and gave the \$150 Dreamcast a 92% boost in sales. From this era, *Phantasy Star Online* still lingers in many Sega fans' hearts, and it was so popular its sequel is still played today.²²⁰

It was too little too late. Sam Pettus made the point as cited from *Daily Radar* that:

If Dreamcast does fail, it will not be because there were no good games available for it. Few if any consoles have been blessed with such an astonishing catalog of games so early in their lives as the Dreamcast has. No, if Sega suffers defeat, it will be because other machines are backed with more cash.²²¹

Sega's Peter Moore, in charge of the Dreamcast launch, also agreed that the deep pockets of their competitors were a challenge. Moore, unlike his predecessors, had the support of the man in charge at Sega. With a \$500 million budget, Moore had been given the last of Sega's cash reserves to save the Dreamcast in its main market: The US. It was not enough. As a final insult to Sega who was barely in the lead over Nintendo, the aging N64 released a game in 2001 that was as audacious as Sega at its best: *Conker's Bad Fur Day*. The smash-hit was

²¹⁸ Kent 2002: 748

²¹⁹ Herman 2001: 521-522; Pettus et al. 2013: 435

²²⁰ Pettus et al. 2013: 406, 441-442, 498

²²¹ Pettus et al. 2013: 479 citing *Daily Radar*

enough to put Nintendo back on top, and Sega was now third and would never catch up again. Sega suffered another blow right after. In March 2001, the venerable Isao Okawa lost his battle with cancer. Before he died, Okawa let his shares worth \$750 million revert back to Sega as a final gift to the company he loved. A month later, Moore announced that Sega was entirely out of the hardware business.²²² In a graceful finish, the console race was over.

4.3 5th and 6th generation comparative analysis: 1993–2001

4.3.1 Staying power

Both Nintendo and Sega had comparable power at the beginning of the 5th generation of consoles, starting with Panasonic's 3DO in 1993. No contender would challenge their combined market share until the Sony PlayStation arrived. Once Sega reached its apex, however, it had trouble staying there compared to Nintendo, which had built up its fortune from years of enforcing a soft monopoly. While Sega lacked Nintendo's war chest, what it had was its reputation for cool excellence. It backfired, then, when Sega attempted to continue building that reputation by a series of risky hardware projects. The projects ultimately drained Sega's precious resources: their limited funds and their hard-won reputation.

Game historian David Sheff argues that Nintendo intentionally attacked Sega's reputation in this period. The aforementioned *Night Trap* and *Mortal Kombat* controversy, where a Sega-CD and a Genesis game ended up the topic of a congressional hearing, was spurred on by Nintendo. It was they who provided the video tapes for Senator Lieberman, and it was Nintendo's Howard Lincoln who stood in front of the senate to demonstrate how family-friendly Nintendo's version of *Mortal Kombat* was. Tom Zito, executive producer for *Night Trap*, claimed that Nintendo's goal was to cause mass-protests against Sega products.²²³ The fact that Nintendo got away with later adding blood and fatalities to the SNES version of *Mortal Kombat* is a good indication they played the political game well. No such controversy followed Nintendo, who has continued to have a mostly family-friendly image to this day.

Sega did not need help damaging their reputation, however. After the many failed hardware projects such as the 32X and the Sega-CD, fans were leaving them in droves. With the 32X

²²² Pettus et al. 2013: 514–515, 520–521

²²³ Sheff 1994: 462; Kent 2002: 605–606

coming out almost at the same time as the Sega Saturn in Japan, it was difficult to convince fans that it was a worthwhile interim purchase. The close launch of the Saturn thus ended up “transforming the 32X from a life-saving blood transfusion for the Mega Drive into a poisonous tumor that would further erode the company’s standing in the global marketplace”.²²⁴ By far the most respected era for Sega was the Genesis era of games, so the 32X was not necessarily a bad idea at the time. With the Saturn looming in the near future, however, it would have made more sense for Sega to have spent that money and effort on making the Saturn backwards compatible, taking advantage of the large and popular library of the Genesis. This had initially been one of the great benefits to the Genesis in the first place, and it was one feature that Nintendo was consistently lacking. Nintendo did not have a backwards-compatible home console until 2006, and it is a missing feature they were often criticized for.

Nintendo’s reputation also took a hit in the 5th and 6th generation. Since 1992, they had gone from being the undisputed top dog in the videogame industry to a close third place out of four contenders in 2001. Still, they did much better than Sega, and especially so when comparing the era of Saturn versus the Nintendo 64. While Nintendo did have to endure the Virtual Boy embarrassment, which Sega had jokingly called the “Dog of the year”, Nintendo’s Peter Main said there was an upside: Even the Virtual Boy sold more merchandise than the Saturn. Main had laughed and said: “I was sorry that certain key executives at Sega left before I was able to deliver the 50-pound bag of dog food to them”.²²⁵ If even Nintendo’s worst hardware mistake of all time outsold Sega’s flagship console in some respects, what did that say about Sega’s reputation?

It was as if Sega had lost its identity for a few years after the Saturn failure. Sega went five years without a flagship Sonic title even as fans clamored for their beloved blue speedster. The Sega scream had also disappeared from commercials, much to the dismay of Sega fans everywhere. When Sega received fan mail, the most frequent questions by far were about when Sonic and the Sega scream would return. It was only in Sega’s final commercial push with the Dreamcast that Sega’s Peter Moore, with Okawa’s last resort budget, finally brought

²²⁴ McFerran 2010: 47

²²⁵ Sheff 1994: 449

back the Sega scream. Electronic Gaming Monthly magazine responded: "All we can say is it's about frickin' time, Sega!"²²⁶ Sega continued trying to show that they were still the same countercultural icon. In conjunction with the game *Jet Set Radio*, Sega hosted a graffiti contest, much to the dismay of the government officials in Milwaukee, Wisconsin. The event happened right next to a government project to remove graffiti, and Sega was asked to stop: "We have no plans to stop [it]," stated Sega company spokeswoman Gwendolyn Marker. "It's a fantasy. It celebrates graffiti as art".²²⁷ Sega clearly tried to restore their reputation, but judging by hardware and software sales at the time, it was simply not enough. Sega had hurt too many fans by launching failed products with poor software complements.

The Dreamcast was different. It had an excellent library of games with a unique Internet capability compared to the competitors, and it was a well-designed machine. But none of that mattered if the public had lost faith in Sega and refused to buy it. Even Nintendo's vice president of marketing, Perrin Kaplin, admitted that "Everybody I talked to loves [the Dreamcast]. It just hasn't caught on to the mass consumer, and that's unfortunate".²²⁸

One of the most frequent sayings in the videogame industry is the adage that it all comes down to the games: Gamers will flock to the platform with the best games. Sega proved that this is not always the case: with a bad reputation hanging over the company, Sega's quality games were never given a chance. As stated previously in this thesis, it was a similar situation in Europe for Nintendo. Due to bad marketing, Nintendo could not compete with Sega in Europe in the NES vs Master System era. Similarly, for the Dreamcast, marketing was a problem. It came down to a question of finances, which Sega struggled with.

Nintendo's soft monopoly had given them cash reserves that gave them immense staying power in the market. Charles Bellfield, Sega's vice president of marketing in the Dreamcast era, conceded the whole race in an interview with Steven Kent:

When you consider that Microsoft has announced a \$500 million marketing program for the launch of Xbox and that Nintendo has a \$5 billion war chest and the overall power behind Sony's PlayStation brand, Sega does not have the ability to compete against those companies.²²⁹

²²⁶ Kent 2002: 688; Pettus et al. 2013: 501

²²⁷ Pettus et al. 2013: 513

²²⁸ Puccini 2000: 16

²²⁹ Kent 2002: 737

Nintendo was better positioned than Sega to experiment with various hardware projects, but it was Sega who did so and failed. Their planet projects such as the Mars project (32X) ended up draining their finances before the final showdown in the Dreamcast era, causing them to be unable to afford crucial improvements such as DVD-ROM. While selling the console at a loss, Sega needed to recoup their sales through software sale targets that they were unable to meet. It was Sega and Nakayama's financial decisions that Okawa had objected to when he finally took control. As one example, Yu Suzuki's game, *Shenmue*, was a technical marvel at the time. Yet it cost so much to make that it was impossible to make a profit: Sega would have had to sell *two* copies of the game per Dreamcast sold to break even.²³⁰ While Nintendo had a massive war chest to fall back on, Sega took too many risks for what they could afford. This was also why the failed partnership with Sony was more devastating for Sega than for Nintendo: Sega needed it more and had more to lose.

4.3.2 Bad decisions and expensive technology

Unlike Sega's many risky projects that were mandated by Japan, almost every time Nintendo looked like it was in a bind, it found an innovative way to use its existing technology. This was a cost-efficient way of advancing the industry. When Sega came out with the Sega-CD and the 32X, they certainly were technological improvements. However, even without a new console, the SNES had a trick up its sleeve that the Genesis did not: Just like the NES, the game cartridges for the SNES could be improved with enhancement chips. The most famous of these chips is the Super FX, and the most famous game with it was Miyamoto's *Star Fox*. It was a 3D space shooter with iconic furry characters, and it showed that Nintendo had an answer for the Sega-CD.²³¹ This is the technology that also led to the previously mentioned *Donkey Kong Country*. Yokoi's philosophy and strategy thus allowed Nintendo to pride itself on being the low-price option while not taking risks in the marketplace.

Still, some risk is unavoidable. Through Japanese decision making, Nintendo lost Squaresoft, and Sega lost EA—both considered some of the top third-party developers in the world. For Nintendo, this actually had a worse outcome. While Sega could still rely on its Sega Sports

²³⁰ Pettus et al. 2013: 528

²³¹ Harris 2014: 403, 498

division, maintaining a healthy competition of sports games in the 6th generation of consoles, Nintendo had no alternative.

Squaresoft was not the only developer that Nintendo lost by choosing to remain with cartridges for the Nintendo 64, and Nintendo would lose some of those developers for decades, like Namco. The fact that Nintendo had to rely more on their first-party games from the Nintendo 64 onwards is the main argument for why sticking with cartridges was the worst mistake Nintendo and Yamauchi ever made. The oft-mentioned Virtual Boy barely deserves a footnote in history because its effects on Nintendo's momentum were almost non-existent, even if it was an unequivocal failure. More important for the decay of Nintendo's reputation was its indecisiveness with the Nintendo PlayStation and the constant delays with the Nintendo 64 and the GameCube.

Sega's hardware failures, however, easily eclipsed Nintendo's. The failures also affected Sega more than Nintendo because Nintendo was the only console maker earning money on console sales. After the successful Genesis/Mega-Drive, Sega would have four market failures in a row, eroding consumer trust with each one: The handheld Game Gear, Sega-CD, Sega 32X, and Sega Saturn. It is easy to point to Sega's Nakayama and say he made bad decisions—but these decisions were not made in a vacuum.

Almost no one outside of Nintendo guessed that the battery-efficient Game Boy would trounce the Game Gear. The Sega-CD turned out to be ahead of its time, which was hard to predict. For the 32X, at the start of 1994, 16-bit games were starting to look dated, and the market was in a large slump. Atari spent a lot of money on marketing the upcoming, next-generation Jaguar console, and it made sense to fear it the way Nakayama did when he ordered teams to start the 32X project.²³² As for the Saturn, Nakayama realized too late that the real danger was the PlayStation, and Sony's legendary price drop had bad timing. Nakayama released the Saturn too early in the US just as Kalinske had warned him not to do, but the differing cultures made it difficult for Nakayama to see Kalinske's point of view.

After all, in Japan, the Saturn was doing exceptionally well when Nakayama had made the decision for the US market. Not just the Saturn, either, but also *Virtua Fighter*, which simply

²³² McFerran 2010: 46

did not do as well in the US. It was during this time that the inner conflict afflicting Sega was at its most pronounced with SoJ overruling SoA at every opportunity, much to SoA president Tom Kalinske's frustration. There were also more examples of cross-cultural clashes. Before Kalinske resigned the year after, Kalinske had a chat with Diane Fornasier, then president of marketing for Sega. Together they lamented that there would be no Sonic title for the Saturn, and that Yuji Naka's flagship game for the Sega Saturn, called *NiGHTS: Into Dreams*, did not fit an American audience. They knew it would not sell in the US, but they also knew Japan would not listen to objections.²³³ This highlights a problem that is not raised by any of the sources for this thesis: How much influence did the top Japanese developers within Sega have? The answer appears to be "a lot."

When Sega's Peter Moore went to Sega headquarters to show off a study, he learned that Sega's elite had an aura of arrogant infallibility. Moore had conducted focus groups with young adult gamers. The question they were asked was "If a videogame publisher was a relative or a friend, who would they be?", and the answers included comparing EA to the arrogant quarterback in the room. When the turn came for Sega, the answer was: "Sega. Yeah, that's your grandad. Used to be cool, but even he can't remember why anymore". When Yuji Naka was presented with this quote, he was furious, slammed his fist on the table, and accused Moore of falsifying the results. Moore explains:

I rarely get upset, but to be accused of doctoring a video, because there's none so blind as those who will not see, right? I loved Sega, still love Sega, but it was dominated by the developers to the extent where Sega as a company couldn't move if Nakagawa-san, Yu Suzuki, Iguchi weren't into it. The world was changing around them, and we were desperate.²³⁴

Both Sam Pettus and Steven Kent emphasize Nakayama's autocratic leadership to the point of dictatorship. But it seems that the cultural divide between Sega of Japan and Sega of America was not simply Nakayama's autocracy: There were undercurrents of power within the Japanese branch that pushed and pulled the company in certain directions as well. That said, even Sega of Europe had issues with the Japanese leadership. "I confess; one of the reasons

²³³ Harris 2014: 643-644

²³⁴ Brightman 2017

that made me leave Sega España was the strategy that Sega of Japan was taking for Europe”, said Paco Pastor, head of the Spanish division.

This cultural clash was a problem unique to Sega; there was seemingly nothing like it for the well-oiled machine that was Nintendo. In fact, the opposite was true. Howard Lincoln claimed that “[Nintendo of America has] always been more autonomous than most Japanese subsidiaries that I know about”.²³⁵ In other words, while SoA struggled to amend games and advertising for the US due to interruptions from Japan, NoA had free rein to do what needed to be done. Meanwhile, Sega of Japan alienated not only Sega of America, but also American developers in the mentioned royalty dispute that was part of the reason they lost EA as a developer. Sega spokesperson Munehiro Umemura claimed that the disparity “merely reflects their track records and related factors, and has nothing to do with a developer's nationality”.²³⁶ Regardless of whether it was a racist or nationalistic decision or not, it was still perceived as such by some of the American developers like EA. It goes to show that Sega’s bad optics were not just limited to the consumers, and this was the result of the many hardware failures as well: Why create games for a console that Sega would just abandon soon, anyway?

When it comes to the hardware race, it is important to understand the previously mentioned PS2 hype. There was much uproar about the PS2’s “Emotion Engine”, which was on par with supercomputers at the time. Indeed, two years after the launch, US researchers “clustered 70 Sony PlayStation 2 game consoles into a Linux supercomputer that [ranked] among the 500 most powerful in the world”.²³⁷ It was understandably difficult to compete with this for the 2-year-old Dreamcast at the time, but Sam Pettus argues it was more of a perceptual issue. The high specs of the PS2 were more theoretical than practical, and when it all came down to it, the Dreamcast actually looked better in many cases due to anti-aliasing and more video memory. The Dreamcast was also much easier to program for than the PS2.²³⁸ In the aftermath, it is easy to see the power that marketing held for Sony. Sega could not afford it.

For Nintendo, the Nintendo 64 did better against the PlayStation than what is often claimed—except in Japan where it was a categorical failure. The numbers in August 1997 were

²³⁵ Sheff 1994: 453

²³⁶ Carlton 1999

²³⁷ Yong-Young 2003

²³⁸ Pettus et al. 2013: 393, 400, 438, 446–449

Nintendo owning 40% of the market share versus Sega's 12%, and Sony's 47%.²³⁹ When the PS2 came out, these numbers tipped further into Sony's favor and would stay that way even when Nintendo countered with its GameCube. What is frequently overlooked, however, is that this number only looked at the flagship console sales. If we look at Nintendo's entire lineup, including the Game Boy and Game Boy Advance (GBA), Nintendo was always comparable or ahead.

When the GBA came out, it was an example of Nintendo using their own history. The GBA library was heavily SNES titles remade with a stylish finish and portable format, and it was wildly successful. With the affordable Game Boy as well, when Pokémon entered the picture and took off, Nintendo could have closed down almost everything else. With their handhelds alone, they would have been enormously financially successful. Sega had its arcade division as its money-maker, but while Nintendo's Pokémon craze was sweeping schools across the US, the arcade business was sluggish and Sega had to close down large parts of it.²⁴⁰ Saddled with inner conflict and no money, Sega made a good effort with the Dreamcast that ultimately had little chance of victory if looked at holistically. In the end, Nintendo had too many advantages and Sega too many disadvantages. As a result, the war may have been decided before Sega even launched its final console.

Chapter 5: Summary and conclusion

By the early 2000s, videogames had risen, fallen, and risen again into an international phenomenon. Originally thought of as a fad, they would again be seen that way after Atari played a large part in tanking the whole market in the videogame crash of 1983.

It was a challenge for Nintendo president Hiroshi Yamauchi, then, to enter a broken market and build it back up again in the 3rd generation. Yamauchi sent his son-in-law Minoru Arakawa to conquer the US market, and it became clear that the uniquely Japanese steel will for business allowed them to endure the bad reputation of videogames and rebuild a whole industry. With the help of genius game designer Shigeru Miyamoto, who had built a library of games so great it revolutionized videogame design, Nintendo became a household name. By

²³⁹ Kent 2002: 718

²⁴⁰ Ryan 2013: 154–155; Kent 2002: 749

1987, Nintendo was the dominant force to be reckoned with after having positioned itself as the invaluable market leader, and it would only continue to grow until the height of its power around 1992 where it *de facto* controlled the toy industry by itself; Nintendo could manipulate even the largest chains in the US to do its bidding.

It was an uphill climb for Sega and its president Hayao Nakayama, then, to compete with the behemoth that Nintendo had become. After decades in the arcade business, Sega knew how to create good games, and it was through this knowledge that Sega separated themselves from the other would-be challengers to Nintendo. While the Master System had trouble with the NES everywhere except Europe, it let Sega set the stage for the next chapter in the 4th generation: The Genesis and SNES war. It was in this era that Nintendo reached the apex of its soft power and soft monopoly, creating what was considered an unfair situation for everyone else.

By effectively building their brand and market dominance, Nintendo became so large that even the US Congress started balking at their existence. Through antitrust lawsuits that likely involved the Federal Trade Commission, Nintendo was forced to relinquish its hold on the market, allowing Sega and its Genesis to enter on fairer terms. It did so and eventually overtook Nintendo through the help of SoA president Tom Kalinske's clever marketing strategies and the countercultural icon Sonic the Hedgehog. The cool and hip underdog Sega had toppled the giant Nintendo, and it grew confident in its own success.

By launching various hardware projects in its planet series, Sega wanted to build on its image as the hardware innovator in the business. The Sega-CD arrived followed by the 32X before Sega launched its next-generation Sega Saturn. Unfortunately for Sega, all of these, plus the handheld Game Gear, would fail, letting Nintendo take the lead again and destroying consumer trust in Sega. Meanwhile, both Nintendo and Sega would make the grave mistake of spurning Sony, who wanted to enter the videogame industry. While Nintendo could afford such a mistake from years of benefitting from a seemingly illegal monopoly, Sega's hardware projects drained their finances, leaving them too weak to properly enter the 6th generation. In the meantime, the Nintendo 64 fought the Sony PlayStation to a standstill with Sony coming out the winner of the 5th generation.

Against these odds, the 6th generation Dreamcast still managed to have a great library of games and be the first console with a focus on Internet connectivity, at the behest of Isao

Okawa, the chairman and true power behind Sega. The PS2, however, came with a DVD-ROM drive and had so much hype behind it that its momentum was unstoppable, eventually leaving it the best-selling console of all time. It would prove impossible for Sega to recover from years of drained finances and much internal conflict. The in-fighting and poor cross-cultural communication of Sega meant they had gone through several presidents in their American division: Michael Katz, Tom Kalinske, Bernie Stolar, and finally Peter Moore. When Nintendo finally launched its 6th generation console, the GameCube, the Microsoft Xbox would soon follow—but the race was already over. Before the other generational competitors had launched their products, Sega had already discontinued its Dreamcast and hardware visions for the future.

5.1 How did Nintendo win?

When Nintendo entered the US market, it encountered circumstances that would have defeated a regular US company. No one believed in videogames at the time. The smoking crater left by the videogame crash of '83 would take monumental effort and a passion for the industry to restore, and that is exactly what Nintendo brought. Nintendo's Yamauchi refused to give up, and Arakawa marched on through the battlefields, starting with the hardest market in New York. It took persistent effort and lots of risk since Nintendo had to convince retailers by footing the bill themselves. Just as important was the help of Shigeru Miyamoto's King Kong replica, *Donkey Kong*, which enabled a foothold that cleared the way to fully enter the US market. In short, Nintendo gained popularity through being uniquely persistent, taking a huge risk, and having the best game designer in the world. While the monopoly would become important later, and the technology was only mildly important, it was the actors and game innovators that played the largest roles in the beginning.

The NES innovated the industry with Gunpei Yokoi's controller and Shigeru Miyamoto's revolutionary game *Super Mario Bros.* Through strict licensing agreements, Nintendo had quality assurance in place that simultaneously guaranteed good games, and also that Nintendo earned a profit. It locked developers down to Nintendo and erected an entry barrier that was difficult for Sega and others to overcome. Nintendo's president of marketing, Peter Main, then took Nintendo's success to the large retailers, and they would eventually succumb to Nintendo's control. While Nintendo was becoming unpopular with Congress, retailers, and

developers as it took over the toy industry, consumers saw them as family-friendly, boosting sales and keeping Nintendo at the top.

Nintendo also had other quality control measures, like Howard Phillips, the game master. Phillips reviewed their games and ensured that the “Nintendo Seal of Quality” met a certain standard. Phillips and Gail Tilden also created *Nintendo Power*, which helped with Nintendo’s success by becoming the most popular kids magazine in both Japan and the US. It was in this era that Nintendo’s reputation as family-friendly grew. Combined with marketing, merchandise, and the licensing agreement, Nintendo was thrust into national attention; it gave them soft power over the entire industry, and a soft monopoly as well. The conflict eventually boiled over, angering both Japan and the US, and it forced Nintendo to abandon its monopolistic practices. By then, Nintendo had already made a fortune throughout the 3rd and 4th generations. It is clear that the monopoly itself was a huge part of why Nintendo succeeded, but it continued to provide a benefit for Nintendo by having given them a financial cushion that let them survive the onslaught of Sony later on.

In the 4th generation, Sega snatched the throne from Nintendo for a while due to how Nintendo could no longer control the industry and how eager developers were to jump ship to Sega. Nintendo, however, was never far behind. It was because Nintendo continued with its focus on using existing technology to its fullest extent, as was Gunpei Yokoi’s philosophy. The Game Boy, for example, was a success because it was so battery-efficient and cheap. The other handhelds had “better” technology because the graphics and sound were better, but they also consumed batteries at many times the speed of the Game Boy. Nintendo also secured the rights to *Tetris*, one of the most popular games in history, which helped the Game Boy’s popularity as well. This means that the different philosophies of Nintendo and Sega regarding technology played a large role in the outcome: Cheap and efficient won out in the end.

The SNES would eventually catch up to the Genesis as well. It showed that it was actually stronger than the Genesis due to custom, enhanced chips, and *Donkey Kong Country*. After the SNES, it took a long time for Nintendo to release the delayed Nintendo 64, but Nintendo retained its popularity through their technology philosophy. Technological determinism is obviously a factor in the grand scheme of things: We move on to the next generation of consoles once the technology improves enough to do so. This can mean moving into entirely new arenas of gaming like the jump into 3D gaming in the PlayStation era—or our foray into

Virtual Reality in recent years with products such as the HTC Vive, Facebook Oculus, or Valve Index. On the smaller scale, however, technological determinism does not matter as much as some other factors in terms of success. In the 7th generation of consoles in 2006, the Nintendo Wii was much weaker than the PS3 and Xbox 360. In fact, it was less powerful than even the 2001 Xbox! Yet it was Nintendo's most profitable period of all time, even eclipsing their 4th generation monopoly. The Wii outsold both the PS3 and Xbox 360 *combined*.²⁴¹ Today, we similarly see the Nintendo Switch doing well against its competitors despite it being vastly technologically inferior to the PS4 or the Xbox One.

This has been Nintendo's *modus operandi* throughout this thesis as well. In the gaming industry, newer technology does not seem to matter as much as how it is used and what it is used on. While Nintendo's reputation took a hit with failures like the Virtual Boy and the many delays for the Nintendo 64 and GameCube, it still held on to its good reputation through thick and thin. In the 5th generation, for example, Nintendo created new standards for controllers with their Nintendo 64 controller by adding vibration and pressure sensitivity. The cost of cartridges and their lack of storage space, however, led to developers dropping Nintendo, which affected their number of games. While Nintendo lost to PlayStation, they did better than Sega by having enough money to survive the period and by relying on a small library of excellent, million-selling games created in-house or by Rare.

Having a small library of games is not such a drawback as one might expect. For one thing, psychologist Barry Schwartz in his book *The Paradox of Choice* explains the psychological effect known as "choice overload", which dictates that having too many choices makes it difficult to decide.²⁴² For another, how many games will the average gamer buy? The Nintendo 64 averaged 6.83 sold games per console sold, while the SNES, with a much larger library, averaged 7.72 per console sold.²⁴³ If the average gamer knows that Nintendo's first-party titles will include at least a dozen fun games, the rest of it might not matter since most will only buy under ten games. In the Atari era, this is how consumer trust in videogames tanked: Too many choices and too low quality. It was the primary motivation behind

²⁴¹ Ryan 2013: 177-179

²⁴² Schwartz 2004

²⁴³ Nintendo of Japan 2021

Nintendo's controversial and strict licensing agreements, after all, and it was a clever way to preserve the excellence of games while limiting their numbers.

The end of the Atari era also lacked a love for games. As Miyamoto said, it begins with wanting to create a good game, then profits—not the other way around. It is a philosophy that has never left Nintendo, and it is part of why the Miyamoto factor is perhaps the most important reason why Nintendo succeeded. While Nintendo likely would not have continued existing without the workhorse Gunpei Yokoi, or Hiroshi Yamauchi's eye for good products, their historical significance falls short of the towering Shigeru Miyamoto. David Sheff agrees:

In 1984, Miyamoto was again summoned to the chairman's office. Yamauchi explained that he needed more games, this time for the Famicom. Miyamoto was to head up a new division, R&D 4... The decision was one of the smartest Yamauchi would ever make. Miyamoto, it was soon apparent, had the same talent for video games as the Beatles had for popular music. It is impossible to calculate Miyamoto's value to Nintendo, and it is not unreasonable to question whether Nintendo would have succeeded without him.²⁴⁴

Miyamoto is one of only two people to have a star on the “Walk of Game” in San Francisco's Metreon Mall—the other person being Atari's Nolan Bushnell, “the father of gaming”. Miyamoto would go on to be one of the main designers for the Nintendo Wii, Nintendo's most popular system. It was so popular that it was sold out in stores worldwide for 3 years straight. As a result, in 2006, Miyamoto was honored as a knight of arts and literature by the French minister of culture. The year after, he was awarded the Innovation Award for Consumer Goods by *The Economist*. The year after that he was voted the most influential person in the world in *Time* magazine.²⁴⁵ Placing too much emphasis on individuals can make one overlook the entire system that made their work possible, but Shigeru Miyamoto is such a legend in the industry and so integral to Nintendo's success that it is difficult to separate the two. Miyamoto was also the idol of Satoshi Tajiri, the creator of Pokémon. Miyamoto tutored Tajiri, and it was Nintendo's handhelds and Pokémon games that put Nintendo in such a position that they could never fail. The GameCube struggled for third place in the final race, and it did beat Sega's Dreamcast, but even if Nintendo's TV consoles bombed completely, it could always fall back upon its handheld success. Miyamoto was a big part of this success

²⁴⁴ Sheff 1994: 49–50

²⁴⁵ Ryan 2013: 174–188

when it came to designing not just the games but the handheld consoles as well, and he continues to be the face of Nintendo to this day.

5.2 How did Sega lose?

Taking on Nintendo was an uphill struggle from the start. Even in the meager beginnings of Sega's foray into the console market, they experimented with better and better technology. Their final two consoles were technically stronger than Nintendo's NES, but technology alone did not win the race in the 3rd generation. They, like all the other contenders, did not have Miyamoto who was driving a large part of Nintendo's success and setting new standards for game design. It was Sega who came closest, however, and Nintendo themselves admitted that Sega was their only actual rival in the 3rd generation, albeit a minor one.

The arcade division of Sega had given them great insights into how to create good games. The popularity of the arcades, however, swung up when a new hit game arrived, and down during the lulls between. Since Sega—unlike Nintendo—was still involved with the arcades, it also meant that Sega was beholden to the fluctuations of the arcade market.

Sega failed at first due to a lack of identity and by attempting to copy Nintendo too much—like with the failed mascot Alex Kidd. Nakayama also made some decisions in this period that ended up backfiring, like hiring the toy giant Tonka, which had no experience with videogames. Nakayama also marked up Sega's products so much that even if Tonka had been experienced, it had little interest since there was little profit for them.

The most important factor was ultimately Nintendo's hold on the market. The US market was like an impenetrable Nintendo wall in some ways: Developers and retailers could not risk losing Nintendo as a client when Nintendo ruled the market with an iron fist. The effect of the US monopoly was probably best exemplified by Sega's success in Europe, which bolstered Sega's motivation to continue fighting Nintendo. While this was in large part due to Nintendo's failed marketing and Sega's Mastertronic alliance, it did show that Sega could conceivably beat Nintendo. More than anything, however, it was Nakayama's insistence that kept them going. He and David Rosen took the patient approach by maneuvering the whole company in preparation for the next generation, well ahead of everyone else.

When the Genesis/Mega-Drive launched it had backwards compatibility and was much stronger than the NES. It launched the 4th generation, but it did not immediately catch on.

After the launch, Nakayama was not satisfied with Michael Katz as Sega of America president, and so he replaced him with Tom Kalinske. The era that followed was Sega's most successful in history, but it was clear from the start that Nakayama was going out on a limb when he agreed to Kalinske's four-step plan. The entire rest of the Japanese leadership thought Kalinske's proposals were ridiculous, after all. Even though Sega was successful for years after Sonic entered the picture, there were murmurs of discontent coming from Japan that Kalinske had taken Sonic from them.²⁴⁶

After lawsuits, Nintendo's grip on the industry had weakened. By specifically focusing on an older age group than Nintendo and ordaining Sonic as *the* countercultural symbol, the Genesis overtook the NES, and even the rival SNES as well. In this era, Sega and EA had teamed up with favorable terms for EA due to Hawkins' reverse-engineering threats, but despite this, it was mutually beneficial: It meant that Sega had a strong lineup of sports games for the US market.

Sega was highly successful, and with success came confidence. It was during this time, before the Sega-CD had come out, when Sega was at the apex of its success, that Nintendo spurned Sony. When Sega and Sony talked about an alliance in the aftermath, Nakayama vetoed the entire deal, thinking Sony knew nothing about the gaming industry. It was a decision Kalinske thought was the dumbest move in business history, and it was the last chance at preventing Sony from beating both Nintendo and Sega two years later.

Sega, however, was still drunk on their own success. That is why Sega of Japan decided to develop the Sega-CD and a series of planet projects. The gambit to develop and launch the Genesis early before Nintendo could react in time had paid off, and now Nakayama wanted Sega to continue staying ahead. The Sega-CD, Game Gear (Mercury), and 32X (Mars) all turned out to be failures, however—and now Sega had overextended their budget. There was no way they could adequately support so many systems, so Nakayama focused on just the upcoming 5th generation planet project: The Sega Saturn. This meant that the Genesis, which many believed still had at least a year left of juice in it, was set to the side, essentially letting Nintendo run the 4th generation show.

²⁴⁶ Harris 2014: 99–101

The quick creation and abandonment of the various systems also angered developers and consumers alike, ruining Sega's reputation. It was not that these systems were necessarily bad ideas on Nakayama's and Sega's part; it was more that they came too early. The 1x speed on early CD-ROM drives, for example, was too slow, leading to significant load times. The later Sony PlayStation would be over twice as fast with its 2x read speed and improved technology, and even then the load times were such that Nintendo elected for cartridges. Regardless, the focus for Sega shifted toward the Saturn. It was even worse, then, when Nakayama began fearing the PlayStation and launched the Saturn early. The consequences were immediately dire, with developers left having to work overtime to finish games early, and the weak launch with no marketing meant that gamers thought Sega had little to offer. Worse yet, the \$299 price of the PlayStation announced right after Sega's surprise took away all the hype surrounding the early Saturn launch. It was a price that was hard to match for a Sega already starting to feel the cost of its hardware division.

Meanwhile, Nintendo was catching up and showing its claws. The overconfident, slow-and-steady approach of Nintendo had let the Genesis take the lead, but now it was the aggressive risk-taking approach of Sega that had pulled Sega into dangerous territory. By modifying existing technology through enhancement chips and releasing even better-looking games than what was on the Genesis, Nintendo started overtaking Sega again.

At the same time, Nintendo allegedly tried to ruin Sega's reputation. Regardless of how it happened, Sega became the target of congressional hearings and had to suffer bad public relations due to violent videogames on their systems. While *Night Trap* initially sold extremely well due to the controversy, it was eventually forcibly pulled from the shelves by the retailers fearing governmental and public repercussions. Sega regained some of its reputation by helping establish the ESRB, but it was still a net loss in the end.

With the PlayStation launching a while after, the Saturn started looking like a failure. It was in some ways a reversal of how Sega had beaten Nintendo: The strategies that Sega had used to win against Nintendo were used against Sega when Sony entered the picture. Developers, now angry with Sega due to stricter license agreements and multiple rushed hardware projects, flocked to the newcomer offering sweeter and more stable deals. Sony's marketing campaigns were every bit as provocative as Sega's ever were—and Sony backed the

campaigns with more funds, too. Even Michael Jackson, who had helped Sega win in the Genesis days with his Moonwalker game, now worked for Sony.

The inner conflict of Sega had reached its climax with Sega of America's Kalinske warning Sega of Japan multiple times only to be ignored. With Kalinske leaving the year after the Saturn launch, Sega invited in the controversial Bernie Stolar, who had already been fired by Sony. His dislike of RPGs was such that had he continued working for Sony, the megahit Final Fantasy VII might not have arrived on the PlayStation. Regardless, now he worked for Sega, and it was a large part of why the Saturn and the early Dreamcast library would lack RPGs, much to the dismay of many loyal Sega fans who loved Phantasy Star. It was also Stolar who failed to reach a deal with EA, but this was more a problem of poor timing than poor persuasive skills due to Sega's recent purchase of a sports games division. It was Sega of Japan that drove a final nail in that relationship when they awarded higher royalties to Japanese developers, as well. It is reasonable to say that Sega's civil war was the most devastating factor in Sega's eventual loss. This can be attributed to actors, but it ultimately comes down to a more complex web of cultural differences and perspectives. By contrast, Nintendo of America's streamlined internal processes and autonomy allowed them more leeway with the American consumer.

The upcoming Sega Dreamcast would be Sega's last chance, but before this, the continued internal conflict of Sega claimed another victim: Bernie Stolar's shouting matches with Isao Okawa had gotten Stolar fired. Peter Moore would replace him for the Dreamcast launch, but the person at the top was soon to be Okawa. He took direct control to sort out what he considered the mess of his predecessors, even though it was likely already too late.

With five years without a proper Sonic title, many failed projects, and internal conflict that was bad enough that it was externally visible, Sega fans and developers had started to lose faith. Yuji Naka's replacement for Sonic, NiGHTS Into Dreams, would come out and do well in Japan, but it failed to entice American markets just as Kalinske and Diane Fornasier had predicted.

While the Dreamcast was a good system with unique capabilities, it would eventually fall to the massive hype train of the PlayStation 2. Perceptually, it was a much greater system that fans wanted to wait for, and its backwards compatibility meant that all the previous PlayStation 1 titles worked as well. Worst of all, it had a DVD-ROM drive at a time when the

cost of one would be as much as the PS2 in the first place. This meant that, for many people, it was essentially like buying a DVD-ROM player with great gaming capabilities. Sega did not have the funds to match this and had to settle for GD-ROM, and it also could not match the marketing budget of Sony—let alone the upcoming \$500 million marketing campaign by Microsoft. In the end, Sega had a great system that not enough people bought, and they were out of money, leaving only a partially restored reputation through their good gaming library for the Dreamcast. If Sega had more money and a better reputation going into the 6th generation race, they could have beaten the PS2 to the punch before it even came out. Instead, by the time Conker's Bad Fur Day came out, Sega was already on its last legs, and Okawa wanted them out of the hardware business. When Okawa died, a part of Sega was destroyed with him, but the seeds of that destruction had been sown years before.

5.3 Final thoughts

As Steven Kent wrote in the foreword of his book, “One thing I have learned while working on this project is that the gaming community is filled with people who know an awful lot about history and will do anything they can to preserve it”.²⁴⁷ Gaming history is woefully understudied and is too often delegated to the realm of amateurs—though even amateurs can expand a field through their endless zeal and energy for their passion.

Throughout this thesis, there are many understudied areas ripe for the picking of future historians—such as videogame history in Europe and Japan. If nothing else, I hope this short examination of videogame history can be the inspiration for future research. The field yearns for thesis questions such as analyzing the role of capitalism in the industry, examining the cultural division in deeper detail, or looking at how history is used and constructed by these companies. The entertainment industry might not be academic, but the light of academia can shine anywhere—even into the realms of Mario and Sonic.

²⁴⁷ Kent 2002: 15

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