Beyond Hatsune Miku: Vocaloid Music and Its Overlooked Relation to Otaku Culture

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Introduction – The Disappearance of Virtual Idol Hatsune Miku

Vocaloid. Ever since Crypton Future Media released the virtual idol and Vocaloid character Hatsune Miku in 2007, the name of the vocal synthesizer technology developed by Yamaha, co. has become synonymous with a plethora of songs made with this vocal synthesizer software, as well as the software of the many other characters or 'voicebanks' that followed in her footsteps. Once regarded to be "The Ideal Idol" (Milioto Matsue 2017), and even feared to eventually replace human pop stars, Miku remains the most well-known Vocaloid idol. With her recognizable long, teal twin tails and futuristic uniform, she also visually became the face of Vocaloid music and the community supporting it. This 'Vocaloid community' revolves around much more than just the idolization of Miku, such as the production of Vocaloid music by amateur producers, the creation of art by amateur artists to accompany the music and covers of the Vocaloid music by amateur singers and other musicians, as well as the fans who consume all these cultural products.

In the past five years, the number of popular Japanese musicians who started their career as an amateur with Vocaloid music has drastically increased. Especially after singer-songwriter Yonezu Kenshi's success in 2018 with the song *Lemon*[1], the names of artists such as Eve, Ado and YOASOBI started appearing on music ranking lists. Simultaneously, Vocaloid songs started to gain more popularity on karaoke ranking lists after the success of *Charles* (2016) by Balloon. According to Joysound's Karaoke Annual Ranking list of 2018, *Charles* was the first Vocaloid song in six years to reach the top 10, overtaking *Senbonzakura* (2011) by WhiteFlame. It is worth noting that *Charles* is not originally sung by Miku, but by another Vocaloid voicebank, the androgynous-sounding V-flower.[2] Though even more remarkable is the fact that the 'self-cover' version sung by Balloon himself (2016) gained about double the number of views when compared the original Vocaloid version of the song.[3] The endless number of covers of the song by other amateur singers even exceeds the number of views on both versions by Balloon combined. Other recent Vocaloid songs appearing high on karaoke ranking lists are *KING* (2020) by Kanaria and *Good-bye Declaration* (2020) by

[1] See Appendix 1 for a list of all Vocaloid-related songs mentioned in this thesis, including weblinks and information such as translated or original Japanese song titles.
[2] Although officially listed as female, the character of the Vocaloid4 version of V-flower has a boyish appearance. The vocal library sounds neither distinctly male nor female, leading to the androgynous perception of the voicebank. See also Bell (2016, 228-32) on how the manipulation of sounds within a singer library influences gender perception.
[3] On YouTube, as of April 6, 2022.

Chinozo. Both songs are endlessly covered by amateur singers, while also originally sung by other Vocaloids than Miku: by GUMI and V-flower, respectively. The growing absence of Miku in popular Vocaloid music suggests that Miku's significance within the Vocaloid community is slowly decreasing.

By no means does this imply *The Disappearance of Hatsune Miku* as a vocal synthesizer software, like the song of the same title (2008) by CosMo suggests. Although Miku as a virtual idol and undisputed icon of Vocaloid music seems to be losing ground, her voice continues to resonate within the Vocaloid community and is still used for many new songs to this day. Similarly, the ever-increasing number of covers of Vocaloid songs and the use of other voicebanks is nothing new, as amateur singers covering popular songs and other voicebanks besides Miku have been around since before August 2007. Most studies on Vocaloid, however, are either focused on the influence and reproduction of the image of Miku, or put emphasis purely on the appeal of Miku as a virtual idol. Although these studies do shed light on the understanding of Miku as a virtual idol, they do very little for the understanding of the Vocaloid community or the music. These studies often favor the emphasis on how 'interesting,' 'special,' or 'innovative' the virtual idol without physical body is, over the analysis of the community behind the music production. Instead, they either completely ignore or only briefly touch upon it. Now that the prominence of alternative voicebanks and other Vocaloid-related artists are overshadowing Miku's initial prevalence, the focus will have to shift from Miku as a virtual idol to the Vocaloid community and the music that is central to it. In the long run, it will be increasingly a necessity to think of Miku as what Vocaloid software was originally intended to be: "an *instrument*, a means whereby something is achieved, performed, or furthered, and, especially, as a musical instrument" (Bell 2016, 225).

By thinking of Miku and other Vocaloid voicebanks as instruments, the possibility arises to look more closely at what dwells beneath the surface of the virtual idols. Vocaloid is often associated with Japanese nerd (*otaku*) culture, though this association is often based on the virtual idols' semblance of *anime* characters. Besides the adoration of Miku, the Vocaloid community is in fact characterized by "obscured identities, animated music videos," songs with "lyrics that describe a more downcast view on modern life – with mostly all of it taking place on the Internet" (St. Michel 2021). Through these characteristics, which are also strongly associated with *otaku* culture (Azuma 2009; Condry 2013; Morikawa 2012), it becomes clear that Vocaloid music is actually related to *otaku* culture. This is particularly

evident in Vocaloid's history, seeing as it first gained popularity in an environment heavily populated by *otaku*. It can thus be said that Vocaloid music stems from *otaku* culture, of which even traces can be found in the way in which Vocaloid music is consumed, as well as the visual and lyrical content of the songs. From this perspective, this thesis will examine the way in which Vocaloid music is related to *otaku* culture beyond the image of Miku. It will provide a fitting overview of the history of Vocaloid music and place it into the context of *otaku* culture, followed by a qualitative analysis of several Vocaloid music videos. This will demonstrate the way in which Vocaloid music still refers to *otaku* culture.

Chapter 1 – An Introduction to Vocaloid

In the past decade, a growing number of scholars has written studies on Vocaloid and Hatsune Miku. These studies present analyses of various aspects of Vocaloid, including the business and the collaborative network developed around Miku (see e.g., Condry 2018; Yamada 2017), and the appeal of Miku as a virtual idol (see e.g., Black 2012; Jørgensen, Vitting-Seerup and Wallevik 2017; Milioto Matsue 2017; Zaborowski 2016; 2018). The field is however relatively new and quite multifaceted, which often causes these studies to exclusively look for an explanation for the phenomenon that is standing directly in front of them, i.e., the hologram of Miku performing live on stage. At first glance, this seems to be very similar to phenomena studied in research on Japanese idols, manga and anime, which results in analyses that focus primarily on the image of Miku on the outer surface layer.

Although such topics are not unrelated to Vocaloid, it would be a mistake to assume that Miku's image is the only element of Vocaloid that triggered its current popularity. More often than not, this mistake is caused by a lack of knowledge of Vocaloid music and its history in general. This lack of knowledge is readily apparent in the limited recognition of the different parties involved in Vocaloid music's success. Presumably, the excessive quoting of interviews with the CEO of Crypton in the book *Hatsune Miku wa naze sekai wo kaeta no ka*? (Why did Hatsune Miku Change the World?, 2014) by journalist Shiba Tomonori (Condry 2018; Yamada 2017) and other interviews with or reports by major personae involved in the development and financial marketing of Vocaloid (Jørgensen, Vitting-Seerup and Wallevik 2017; Milioto Matsue 2017), lies at the root of this problem.[4] Unfortunately, this had led to inaccurate assumptions about e.g., the gender, sexuality and age of the audience, incorrectly assumed to be middle-aged heterosexual males (Black 2012; Milioto Matsue 2017) and the way in which Miku is primarily used, namely not as a character but as a musical instrument. In order to clear up these misunderstandings, this chapter will provide a brief history of Vocaloid music and the community that has en masse produced, consumed and reproduced it.

[4] Shiba's book (2014) features interviews with people who benefit economically from selling the Hatsune Miku software, Miku's image and/or associated products, such as the CEO of Crypton Future Media, the CEO of Niwango and the Yamaha developers of the Vocaloid technology. Condry (2013; 2018) and Yamada (2017) generally refer to these interviews when citing Shiba. Other scholars often refer to works by Condry (2013; 2018), which also contain his own interviews with the CEO of Crypton, or to interviews with or reports by the CEO of Crypton or the Yamaha developers of Vocaloid.

The Birth of Hatsune Miku

Long before the development of Vocaloid technology, people have been fascinated with the creation of artificial and synthesized voices. In the late 19th century, Thomas Edison developed a talking doll, which was able to recite nursery rhymes and baby talk through a small phonograph inside its body using the recordings of women's voices. It became one of the first examples of disconnecting the human voice from the human body, and placing it upon an artificial body (Black 2012, 211). A little later, in the 1930s, the first electronic voice synthesis apparatus, the Voice Operating Demonstrator (Voder) was patented by Homer Dudley at Bell Laboratories. It was an organ-like apparatus, with keys and foot pedals to manipulate the frequency range and oscillation of electric noises to produce recognizable speech (Bell 2016, 225-26). Seven decades later, in March 2000, these advancements inspired Yamaha to collaborate with Pompeu Fabra University in Spain to start developing a vocal synthesizer technology that could simulate human singing voices (Bell 2016, 223-24; Yamada 2017, 17-19).

By the time Yamaha started the development of the Vocaloid technology, the company was already well-known for its digital music-making technologies. At first, such technologies were only accessible through professional recordings studios, but by the early 1980s, the availability of technological devices such as the TEAC144 four-track recorder and the sequencer, along with the Musical Instrumental Digital Interface (MIDI), enabled amateur musicians to digitally record music at home (Shiba 2014, 36-37; Yamada 2017, 13). In 1983, Yamaha introduced the DX7, the first digital Frequency Modulation (FM) synthesizer in the DX series, following this trend in at-home music-making. It could produce a wide variety of tones and was compatible with other instruments and computers through MIDI ports. It was also very affordable, making it easy for amateur musicians to create their own music (Shiba 2014, 39-41; Yamada 2017, 12-14).

It was, however, not merely the synthesizers' advancement that contributed to the growth of amateur music-making. During the 1990s, the development and spread of personal computers (PCs) that used hard discs instead of floppies, greatly improved the exchange of data. In 1995, Microsoft released its relatively affordable, consumer-oriented operating system Windows 95, swiftly followed by Windows 98 in 1998, immensely boosting the use of PCs. Meanwhile, as the use of PCs increased, the use of the Internet spread as well, marking an important shift from storing MIDI data on hard disks in computers, to storing and sharing them online (Shiba 2014, 36-39; Yamada 2017, 14-17).

Around the year 2000, music-making software was able to generate a great variety of sounds that were very close to the actual instruments, yet there was no such software capable of simulating human singing voices. In 1997, Yamaha released the PLG 100-SG synthesizer as a forerunner of the Vocaloid software, but this product was not yet capable of pronouncing words, and the singing voice still sounded very robotic. Taking inspiration from the aforementioned vocal synthesizers, Yamaha strived to create a synthesizer software that produced human-sounding singing voices from which lyrics could be clearly discerned, while also making it convenient to amateur music-makers. It became a resounding success: by July 2000, the Vocaloid was able to pronounce the Japanese word "*asa*" (morning), and by January 2004, the Vocaloid technology was licensed to the first third-party companies to use for their own software (Yamada 2017, 17-18).

In order to create their own vocal synthesizer software, third-party companies used Yamaha's Vocaloid technology to transform recordings of an existing voice into a voicebank whose timbre and pitch could be changed. The first voicebanks, Leon and Lola, were created by the London-based company Zero-G, and were only available in English. The Japanese company Crypton Future Media (Crypton) released Leon and Lola in Japan as well, and soon after released the first voicebank of their own: Meiko (Bell 2016, 227; Shiba 2014, 98-100; Yamada 2017, 19-20).

Meiko sold well, but not quite as explosively as Miku later would (Yamada 2017, 19-20). When compared to Miku, Meiko was still lacking in several areas. Although the box art did depict an anime-like female character, piquing the interest of anime and manga fans, Crypton did not yet have an explicit marketing strategy that tied the character to the software (Bell 2016, 227). The quality of the software was not yet high enough for use by professional musicians (Condry 2018, 129; Shiba 2014, 100-103). Unfortunately, neither of these problems were solved by February 2006, when Crypton released their next voicebank, the male Vocaloid Kaito, resulting in drastically lower sales than Meiko (Yamada 2017, 20).

The future of Vocaloid did not seem hopeful, until Yamaha announced Vocaloid2 (V2), the second version of the Vocaloid technology in early 2007 (Shiba 2014, 102-103; Yamada 2017, 20). Crypton had learned much from its experience with the release of Meiko, and adjusted its marketing strategy accordingly when they prepared for the release of Miku: the character on the box art was promoted as "an imaginary character that sings" (*kakū no kyarakutaa ga utau*), tying her directly to the software (Bell 2016, 227; Shiba 2014, 103-

106). More importantly though, the newly developed Vocaloid2 technology at last made Miku's software good enough for use by professional musicians (Condry 2018, 128-129; Shiba 2014, 103-106).

Miku's Rise to Stardom

The marketing strategy was not the only thing that Crypton executed perfectly. The timing of Miku's release was fortuitous. In December 2006, the first version of the video streaming website Niconico Dōga (Niconico) was launched. It was developed by Dwango, a company that originally provided content for mobile phones, such as ringtones and games (Condry 2018, 129; Steinberg 2019, 183; Yamada 2017, 29). Before Niconico, the company was best known for their mobile website Iro-Melomix, which was a huge hit for providing ringtones and full songs on a subscription basis in the early 2000s (Steinberg 2019, 183; Yamada 2017, 29). In 2005, however, the licensing agreement with music rights managers was drastically altered, making it impossible for Dwango to continue offering full songs (Steinberg 2019, 183). The steep decline in membership of the site following this sudden change could have been detrimental to the company, but Dwango quickly came up with a solution. They released a video streaming site with written user comments streamed on top of the video: Niconico (Steinberg 2019, 183).

Niconico soon developed into a platform known for its close ties to Japan's anime, manga and game subcultures (Steinberg 2019, 190), for which the fans would make MAD (*music anime dōga*, music anime video) using copyrighted materials and upload it to the site. It was especially known as a hub for fans of the rhythm game *THE IDOLM@STER* (*The Idolmaster*)[5] and the mostly fan-made game series *Tōhō Project* (Steinberg 2019, 190; Yamada 2017, 30-31). In *The Idolmaster*, players become the producer of an idol group and must make the group perform songs by playing the rhythm game, but the number of songs they can perform is limited by the number of in-game songs. Thus, the fans started creating MADs using other popular songs and uploaded those to Niconico (Yamada 2017, 30-31). In the game itself, the players are called "[username]P" by the story characters (in which the "P" stands for producer), so naturally, the creators of MADs used the same format for their Niconico usernames, normalizing the "P" as a suffix for those who produce-promote their own virtual pop idols (NikuChomoRanma 2021, 3:54-5:15). It did however not take very

[5] Also commonly abbreviated to *aimasu* アイマス.

long until Niconico started facing objections from record companies about infringing copyrighted materials on the site, accompanied by threats of take-downs targeting MADs and other music postings (Condry 2018, 129-30).

Right at the moment that Niconico was in need of copyright free content, especially music, Crypton released Hatsune Miku (Condry 2018, 129-30). With both the new Vocaloid2 technology and the improved marketing strategy, Miku was the ideal instrument for at-home music production of songs which would not fall under Japan's copyright law and could be used freely for MADs. However, the first few songs with Miku's voice were not original songs, but rather covers of existing songs (e.g. *Ievan Polkka*, uploaded by Otomania, a cover of a Finnish folk song). Soon, more and more Niconico users uploaded their own original creations to the platform. These songs generally depicted the experience of the Vocaloid idol as "an imaginary character that sings" who is nothing more than a computer program (e.g. *Miku Miku ni shite ageru* by Ika). The listeners thought the users who produced such "character songs" (songs written to be sung by a specific character) for Miku, were trying to make Miku sell as an idol and thus gave them a producer name, using the same "P"-suffix as the producers of *The Idolmaster* (NikuChomoRanma 2021, 3:54-5:15).[6] From then on, the creators of Vocaloid music were called VocaloP, short for Vocaloid producer (J. *bokaroP* ボカロ P). As these VocaloP continued to write character songs for Miku, the virtual idol slowly gained more fans, but did not become as well-known as she is today until the release of one particular song in December 2007.

The Melt Shock

The first major Vocaloid song, *Melt*, was uploaded on Niconico on December 6th 2007 by the VocaloP Ryo, and is by far the most influential Vocaloid song to this day. The song's success did not reach far beyond the Vocaloid scene, but it did create the blueprint for the successes of songs such as *Senbonzakura*, *Charles* or *KING*. Although some studies discuss both the producer and the song (Yamada 2017; Zaborowski 2018), none mentioned the immense impact of what took place on Niconico one week after the release of the song: the so-called Melt Shock (Keirō 2017; Niconico Daihyakka 2009).

[6] Not the producer themselves, but the listeners decide this producer name, usually based on a song title, phrase from a song, or on a comment or catch phrase in the video description. "[username/famous song title/song lyric/catch phrase]P", e.g. WhiteFlame's producer name is Kuro-usaP, CosMo's producer name is BōsōP, etc.

The song itself was a total game-changer. The lyrics of the song depict a shy girl who is in love with a boy, but struggles to express her feelings to him directly. After all of the character songs in which Miku is essentially only singing about herself being a vocal synthesizer, this is the first song in which she sings about being in love. This triggered a lot of the listeners to discuss the lyrics and the relationship between the main character of the song and Miku: is the shy girl a representation of the virtual idol, or is Miku singing a song about another person (Yamada 2017, 63-64)? Some believe it is a song in which Miku only jokes about falling in love (Zaborowski 2018, 106), while others believe that even though Miku is a piece of computer software, this song shows that she can experience human feelings such as love (NikuChomoRanma 2021, 6:05-6:39). More generally however, *Melt* is believed to be the first Vocaloid song in which the VocaloP employs Miku to express the feelings of another person, i.e. the main character of the song (Keirō 2017; Yamada 2017, 63-64). For the first time, Miku was just the singer of an original song, and not a character singing about herself.

At first, *Melt* was not a very popular song. It ranked in the top 10 most viewed videos immediately after upload, but it soon dropped to the 41st place (Niconico Daihyakka 2009). Then, on December 12, only six days after the release of the original version by Ryo, the amateur singer Halyosy uploaded his cover of the song onto Niconico, and titled it "*'Meruto' o utattemita (dansei kī age Ver.)*" (I tried to sing 'Melt' (Male key +1 version)). It quickly started climbing the ranking list, and triggered many other *utaite* to sing covers of the song and upload it onto Niconico the following day. By the next day, almost the complete ranking list was filled with *Melt* covers, one after another showing the same thumbnail. On top of that, it was not the original version by Ryo that took the first place, but the cover by the amateur singer Gazelle. The sight of this ranking list shocked many Niconico users, since nothing like this happened before (figure 1). This led to a lot of criticism as well as positive feedback, and swiftly became known as the Melt Shock.

The Melt Shock was entirely the result of the abundance of covers by amateur singers like Halyosy and Gazelle called *utaite* 歌い手. The term *utaite* is generally used to refer to amateur singers to differentiate them from *kashu* 歌手, which is used to refer to professional singers (Niconico Daihyakka 2016). Both words literally translate to "the one that sings" and are written with the same kanji characters, but the additional hiragana character (*i* い) in *utaite* changes both the pronunciation and the nuance of the meaning. Originally, the words were used interchangeably, but when *kashu* became the generalized term used for became the

Figure 1. Screenshot of the Niconico ranking list at the end of December 2007, a visual representation of the Melt Shock.

professional singers in the Japanese language, utaite became completely unused (Niconico Daihyakka 2016). Utaite resurfaced in the 2000s, when amateur singers started to post covers of Japanese popular music on the karaoke-thread on Japan's most infamous bulletin board site 2channel. Some of the first utaite, such as Halyosy, started their careers in music on 2channel, but moved their activities to Niconico after its launch (NikuChomoRanma 2019, 4:11-6:11).

On Niconico, many *utaite* started using the tag *utattemita* 歌ってみた (I tried to sing) to promote their videos, which then became recognized as an official video category on May 10th 2007 (Niconico Daihyakka 2019). However, many *utaite* faced backlash from fans of the original singers of the songs they covered (NikuChomoRanma 2019, 7:06-7:35). Due to Japan's strict copyright laws, they were often forced by record companies to take their covers down too, much like the MAD producers. Although Miku's release resulted in the creation of copyright-free songs, the character songs were not quite the right fit for *utaite* to cover, since the lyrics were so strongly referring to the Vocaloid software as the main character. This all changed with the release of *Melt*, the first Vocaloid song that separated the story of the song from the Vocaloid character Miku, allowing *utaite* to take Miku's place as the singer in delivering the story.

The biggest criticism of Vocaloid fans was that with *Melt*, the virtual idol "Hatsune Miku" had "died," because it ruined the narrative of the imaginary character (Keirō 2017). Such responses are quite exaggerated, considering the fact that the production of Vocaloid character songs did not come to an abrupt end. Instead, a new type of Vocaloid songs appeared and captured the attention of both VocaloP and listeners. Like *Melt*, these songs were not about the Vocaloid software or about the virtual idol's existence, but depicted storylines unrelated to the Vocaloid characters. The Vocaloid characters became the voices mediating between the VocaloP and their listeners, conveying the message of the song by *performing* as the main character, but not *being* the main character. By removing Crypton's "an imaginary character that sings"-narrative, the restrictions of the character songs were lifted and it became easier for other creators to make secondary content based on these new Vocaloid songs, such as *utattemita* and *hiitemita* 弾いてみた (I tried to play) covers, *odottemita* 踊ってみた (I tried to dance) choreographies, and *kaitemita* 描いてみた (I tried to draw) images and animated videos. As this type of Vocaloid songs continued to capture the

attention of listeners, the prime days of the Vocaloid character song came to an end (Keirō 2017). Hatsune Miku had become a true performer, and was now able to perform many more narratives besides her own.

Besides a wave of secondary content made to accompany both the original music and the covers, the Melt Shock also triggered an increase in listeners of Vocaloid music. Whereas the first Vocaloid fans, adoring Miku as an imaginary character, were assumed to be predominantly middle-age men (Milioto Matsue 2017, 321)[7], the new wave of fans attracted by the *utattemita* covers diversified the Vocaloid audience. With an increase in female fans, the gender ratio of the Vocaloid fans became more balanced, as supported by Rafal Zaborowski's ethnographic data (2016, 117-19). The same data shows that although their age can vary greatly, most fans are in their late teens to early thirties. In other words, through covers sung by *utaite*, Vocaloid music managed to reach people who were not at all familiar with the virtual idols, or did not find the virtual idols' voices appealing. Hence, the Melt Shock highlights the interdependent relationship between VocaloP and *utaite*, and demonstrates the importance of having a sufficient awareness of the development of Vocaloid music as it is popularized today.

[7] Milioto Matsue (2017) bases a significant section of her argument around this assumption.

Chapter 2 – Beyond the Image: Vocaloid and its Relation to *Otaku* Culture

Vocaloid is indisputably related to *otaku* culture. This might seem like an obvious statement due to Hatsune Miku's anime-style appearance, but the relation is much more complex than merely the image. Enticed by Miku's appearance, previous studies have primarily focused on the analysis of the image of Miku as character or idol. The focus on Miku's image is generally caused by a lack of knowledge about the Vocaloid community, as discussed in Chapter 1. As a result, the studies that did make an attempt to link the appeal of Vocaloid to anime, manga and *otaku* culture (Black 2012; Condry 2018; Milioto Matsue 2017; Yamada 2017) did so merely based on the distribution of the image of Miku, and have thus overlooked the much more complex way in which Vocaloid music and *otaku* culture are related.

The understanding of this complex relationship between Vocaloid music and *otaku* culture is key to understanding the ethos of Vocaloid and how it is influencing Japanese popular music. According to Patrick St. Michel, music journalist for The Japan Times, acts like Ado and YOASOBI "carry the ethos of the [Vocaloid] community's early days with them into the 2020s: obscured identities, animated music videos, and lyrics that describe a more downcast view on modern life – with mostly all of it taking place on the Internet" (2021). Indeed, these four characteristics of Vocaloid music are what set it apart from mainstream Japanese popular music. Even so, none of the characteristics are unique to Vocaloid music at first glance. What is unique however, is the way in which these characteristics are connected to each other through *otaku* culture, and the vital part they play in the music.

Defining Otaku

The term *otaku* is generally understood to refer to passionate fans of anime, manga and video games. Especially in regions outside of Japan, it is used to specifically refer to fans of these Japanese popular cultural goods. In Japan however, the term was originally put into use to refer to the supporters of a new subculture that emerged in the 1970s (Azuma 2009, 4). *Otaku* culture thus refers to the subculture surrounding the consumption of various new forms of Japanese media, such as anime and manga, but is also strongly associated with computers, science fiction, figurines, special effects and the Internet (Azuma 2009, 3-4).

Otaku are stereotypically thought to be male, even though many women also participated in *otaku* culture from the beginning (Morikawa 2012, 15; Galbraith 2016, 22-23). This stereotype of *otaku*, as well as the discriminatory use of the word became prevalent in the

public consciousness after the cruel serial murders of young girls carried out by Miyazaki Tsutomu in 1988-89. The media continuously stressed how Miyazaki was an *otaku*, and even went as far as comparing other anime and manga fans to him (Morikawa 2012, 8):

> A powerful negative image of anime fans took hold, and the 36th Comic Market, which opened with 100,000 participants right after Miyazaki was arrested, was covered by television news, with one reporter going so far as to claim, ― "Here are 100,000 Miyazaki Tsutomu's" — an example of the extreme bashing of otaku culture at that time.

The continuous use of the term in relation to Miyazaki by the media turned the temporary buzzword of the 1970s into an everyday term (Azuma 2009, 4; Saitō 2011, 11). This negative connotation remains part of the general perception of *otaku* to this day (Azuma 2009, 4; Saitō 2011, 12).

In the 1990s however, a new generation of *otaku* have come to use the term not unlike a badge of honor as it became associated with anime, popularizing the term even in Europe and the United States (Azuma 2009, 4-5; Saitō 2011, 12). As the uses of the term increased, the definition became increasingly ambiguous (Saitō 2011, 12). Amid the chaos of the ever-changing definition of *otaku* and the wide range of media involved in *otaku* culture, J. Keith Vincent presents an exemplary delineation of *otaku* in the Translators Introduction of Saitō Tamaki's book *Beautiful Fighting Girl* (2011, xiii):

> Most commentators agree that the *otaku* emerge historically as a new sociological type sometime in the 1970s in the vacuum left by a hegemonic mainstream culture and the sub- and countercultures that opposed it. Defined more by their tastes than their actions or convictions, the otaku are the precocious children of postmodern consumerist society.

Indeed, "most commentators" define *otaku* by what they consume, rather than how they consume it, much like Saitō does. However, not all scholars agree with this way of defining *otaku*. In response to Saitō's book, Azuma Hiroki wrote *Otaku: Japan's Database Animals* (2009), in which he "steered as clear as possible of analyzing of individual works, emphasized the mode of consumption over the images themselves, and attempted to use a sociological approach to solve the riddle of the *otaku*, all of which were explicit reversals of Saitō's [Lacanian] approach" (Azuma in Saitō 2011, 183). With this approach, Azuma proposes a new method for analyzing content generated through *otaku* culture. This way of looking at and examining *otaku* culture will be a major component in comparing it to Vocaloid culture, particularly since Azuma's approach to *otaku* culture is fundamental to the approach to Vocaloid culture in this thesis.

The Consumption Model of Otaku Culture: Database Consumption

Azuma's theory starts with the claim that "the essence of our era," which he recognizes as postmodernity, "is extremely well disclosed in the structure of *otaku* culture" (2009, 6). This relationship between *otaku* culture and postmodernity is however not a new concept. At the time Azuma wrote his book, both the prominence of derivative works and the importance placed on fiction were already identified as postmodern characteristics of *otaku* culture (Azuma 2009, 25-29).[8] In his claim, Azuma refers specifically to the *otaku* culture since the 1990s, i.e., the culture of the new generation of *otaku* that experienced the spread of the Internet (2009, 7). *Otaku* culture in general is renowned for the vast amount of derivative works it generates, such as fan magazines (fanzines), fan games and fan art. At first, such derivative works created by amateurs were only bought and sold at *otaku* meetings and conventions, of which Comiket (Comic Market) is the most visited. With the spread of the Internet, it became possible for *otaku* to easily share their creations online, further increasing the amount of derivative works available for others to consume. The eager consumption of fan creations shows that *otaku* thus value and consume derivative works and original works equally, blurring the distinction between original and copy. This closely resembles Baudrillard's prediction of a postmodern society in which the simulacrum, an interim form which is neither original nor copy, becomes dominant within the culture industry as the distinction between original and its copy weakens (Azuma 2009, 25-26).

The prominence of derivative works which are valued equally to original works also indicates the value *otaku* place on fiction. Azuma explains, drawing from Nakajima Azusa's book *Communication Deficiency Syndrome* (1991), that *otaku* take the fictional far more seriously than social reality, because to them, the value standards of fiction are more effective for their human relations: "*Otaku* shut themselves into the hobby community not because they deny sociality but rather because, as social values and standards are already dysfunctional, they feel a pressing need to construct alternative values and standards" (Azuma 2009, 27). In "the vacuum left by a hegemonic mainstream culture and the sub- and countercultures that opposed it" (Saitō 2011, xiii), the singular and vast social standard of modernity is lost, and is replaced by the coexistence of countless smaller standards in the form of fictional works (Azuma 2009, 27-28). This process closely resembles the decline of

[8] These two characteristics are explained as postmodern using Jean Baudrillard's concept of "simulacra" and Jean-François Lyotard's notion of "the decline of the grand narrative." Both concepts are a key element to Azuma's theory of the database consumption model, to which he also refers as the postmodern database model.

the grand narrative, which Lyotard identified as one of the characteristics of postmodernity (Azuma 2009, 27-28).

In his book *Theory of Narrative Consumption* (1989), the cultural critic Ōtsuka Eiji employs Lyotard's notion of the decline of the grand narrative to analyze the way in which simulacra are produced and consumed in *otaku* culture (Azuma 2009, 29-30). He introduces the concept of "small narratives" to refer to the particular narrative within cultural commodities, which function as an entrance to a grand narrative. In this context, the "grand narrative" is the "worldview" or the "settings" that supports and informs the small narratives. The small narratives are merely fragments of the grand narrative, or the fiction that the *otaku* value so highly, and are consumed and produced as surrogate products. This consumption model is what Ōtsuka labels as *narrative consumption* (Azuma 2009, 30-31).

Significant to point out is that in Ōtsuka's narrative consumption model, both original works and derivative works function equally as small narratives, but are still informed by grand narrative created by the author of the original works. This means that primarily, the grand narrative is created by referring to it through the small narratives of the original works by the original author, thus determining the worldview or settings of the fictional grand narrative. The grand narrative is then used as a set of rules or reference model according to which the small narratives of the derivative works are created by amateurs (and in some cases the author themselves as well, see Azuma 2009, 26). Although derivative works ought to abide by the rules set by the grand narrative, the grand narrative can be slightly enhanced in the same way the grand narrative is created through the small narratives of the original works. All of these small narratives are thus valued equally as fragments of the grand narrative, yet a (body of) original work(s) by an original author is still necessary in order to establish the laws of the grand narrative. Like so, both the original works and the derivative works are evidently centered around the grand narrative.

Azuma (2009, 31) argues that such a *tree model* (figure 2a), where the small narratives are centered around the grand narrative, is representative of the era of modernity rather than postmodernity. In this particular model, the consumer perceives the small narratives that appear on the outer surface layer, which is regulated by the deep inner layer or grand narrative (Azuma 2009, 31-32). It is reflective of the structuralist mindset of modernity, in which the purpose of scholarship was thought to be the clarification of the structure of the hidden layer in order to analyze the way in which meaning is made. In the new era of postmodernity, the tree model collapses as the grand narrative of the singular social standard

declines. Whereas Ōtsuka argues that the grand narrative of modernity is replaced by the fictional grand narratives consumed through the small narratives in simulacra, Azuma argues that the structuralist world image of the tree model collapsed completely and is replaced by what he calls the *database model* (Azuma 2009, 31).

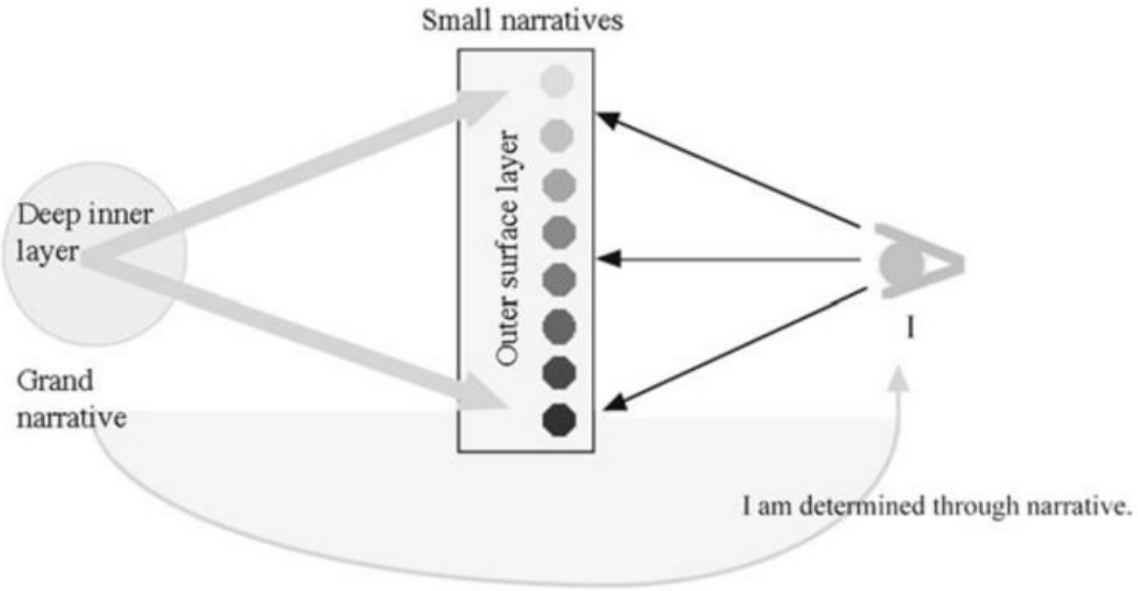

Figure 2a. The tree model, representing the world image of modernity (Azuma 2009, 32).

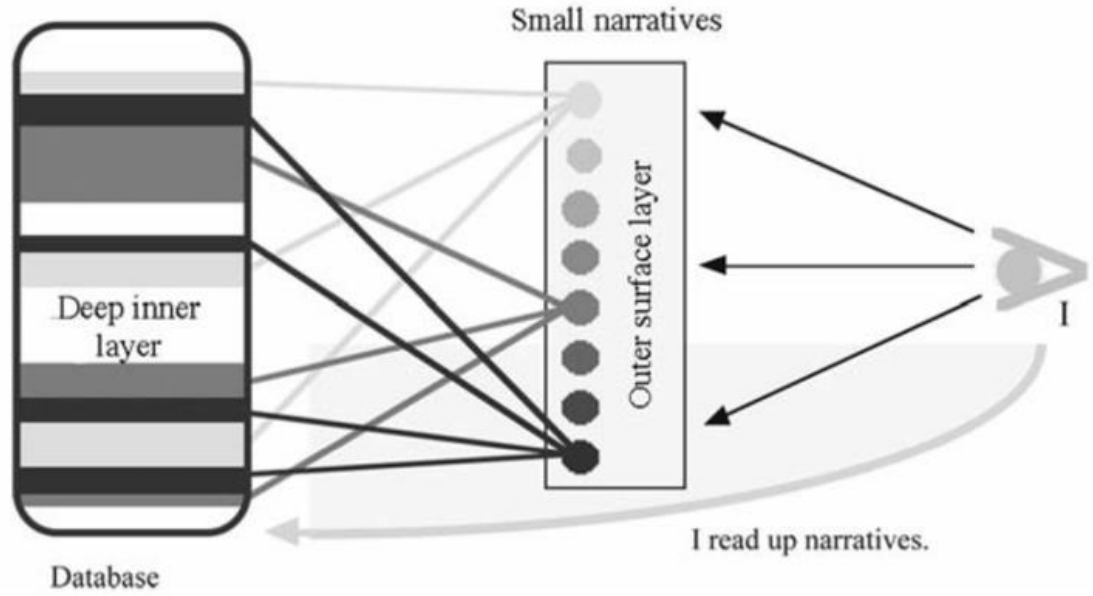

Figure 2b. The database model, representing the world image of postmodernity (Azuma 2009, 33).

Unlike the tree model, the database model has no center (Azuma 2009, 31). It is a double-layer structure in which the deep inner layer consists of accumulated data or non-narrative settings rather than a grand narrative (figure 2b). Because of this double-layer structure, the agency that determines the appearance of the small narrative does not reside in the deep inner layer, but rather on the outer surface itself. The agency thus belongs to the side of the user who "reads up" the data from the database (Azuma 2009, 32). The small narratives on the outer surface layer are created by creating different combinations of the data elements from the deep inner layer, or the database. The user is increasingly more interested in consuming accumulations of data elements in the shape of characters, and the grand narratives of which the small narratives used to be fragments are reduced to mere data elements in the database (Azuma 2009, 42). The data elements in the database are not connected to each other by one grand narrative, but rather form "an aggregate of information without a narrative," into which all individual consumers can "empathize of their own accord" and can "read up convenient narratives," and Azuma thus calls the *grand nonnarrative* (Azuma 2009, 38).

This means that in contrast to narrative consumption, where characters are created in accordance with the rules of the grand narrative, the characters in nonnarrative database consumption are instead first created out of a database of what Azuma calls *moe*-elements, which are fragments of specific characteristics (i.e. cat ears, glasses, maid uniforms) that pique the interest of the consumers (Azuma 2009, 42-48).[9] Each of these elements has its own origin or background which can be traced back to older characters, but rather than copying other characters completely, the copying of such elements is like quoting previous works (Azuma 2009, 42-52). The characters created by combining popular *moe*-elements are then combined with different elements, such as other characters and fragments of narratives, in order to create new small narratives. This creates a complex system of simulacra and databases that continuously refer to one another (Azuma 2009, 53-54).

Although Azuma acknowledges that Ōtsuka's narrative consumption model has a double layer structure strongly resembling the postmodern database model (Azuma 2009, 33), he later argues that it still primarily imitates the modern tree model. This is due to it being structured to replace the grand narrative of modernity after its decline with a fictional grand narrative, out of a necessity for alternative standards and values. The new generation of *otaku* however did not experience this same necessity and was unconcerned with the deeper

[9] Azuma stresses that *moe*-elements are not simple fetish objects, but should be understood as signs that emerged through market principles (2009, 42).

meanings or messages that linked the small narratives to the (fictional) grand narrative (Azuma 2009, 35-36). One of the reasons Azuma gives for this shift in necessity is the increase in multimedia. This increase in multimedia caused the previously accepted order of the production of derivative works (original manga debuts first, followed by anime releases, then related products like figurines and finally fan made derivative works) to lose its dominance as the entry point into the grand narrative (Azuma 2009, 39).[10]

Similarly, the claim that a lack of awareness of the original work or original authors as a result of this rise of multimedia has caused consumers to not discern between the original and the derivative works (Azuma 2009, 39) does not seem entirely plausible. Indeed, consumers may not be aware of the original author (in a modern context) of the first character with cat ears, nor do they then discern between the original character with cat ears and the many characters with cat ears that have later been created. Yet the artists, who combine the different *moe*-elements into characters, and then combine those with other data elements into new small narratives, are recognized as authors. The new small narratives on the outer surface layer function as a creation of data elements of their own database in the deep inner layer. Derivative works made by the consumers of the new small narrative are then created by combining recognizable data elements from the database of the specific work and potentially merging it with data elements from other databases. This means that while 'author' and 'original' by modern definition (or standard) are no longer discerned from the derivative, the postmodern author of an original combination of data elements can still be recognized as the creator of an entry point into the database of that specific work.[11]

From such a point of view, Ōtsuka's narrative consumption model is not all that different from Azuma's database consumption model. The difference is found only in the deep inner layer, i.e., the difference between the grand narrative, which functions as a set of rules or reference model according to which the small narratives of derivative works are created, and the grand nonnarrative or database, which functions as an aggregate of unrelated data elements that are quoted in the small narratives of derivative works. The keyword in this difference is the 'set of rules' or 'reference model,' which not only informs, but also dictates

[10] This statement is slightly deceiving, as it ignores the influence of multimedia on earlier generations of *otaku*. It discounts the possibility of small narratives in the shape of games, figurines or fan events to create a set of rules for a new fictional grand narrative, which in turn generates more derivative works that are equally valued by the consumers.

[11] In a way, this testifies to how the modern values and standards such as 'authenticity' and 'originality' have become dysfunctional and are replaced by alternative, postmodern values which can differ per individual depending on how they read up the data elements from specific databases.

the small narrative, much like the social values and standards of the modern grand narrative did. It limits the possibilities of combinations created out of the data elements that the grand narrative holds. Data elements like characters, settings and timelines can be added, but they all have to comply to the rules of the existing grand narrative that connects these separate data elements. Even though the narrative consumption model has a double-layer structure strongly resembling the postmodern database model, the way in which it centers around the grand narrative demonstrates how it continues to function like the modern tree model, in which the relationship between the grand narrative and the small narratives is dictated by the rules of meaning-making. Such limitations make it increasingly more difficult for individual consumers to construct small narratives that they can empathize with (i.e., express their individual values or worldview) and that simultaneously comply to the rules of the grand narrative it refers to in order to communicate meaning.

In the complex system of simulacra and databases that Azuma describes, the data elements do still refer to certain data elements of grand narratives, but lack the set of rules that limits the possible combinations. The grand narratives are broken up into smaller pieces that describe only a small fragment of the modern grand narrative, and become loosely related parts of a nonnarrative database. The fragments of the grand narrative hold no meaning of their own within the database. Only when they appear on the outer surface layer can these fragments of the modern grand narrative be consumed as data elements that consumers can empathize with of their own accord, reading it up whenever such a narrative is convenient to the individual consumer (Azuma 2009, 93-94).

Vocaloid Music Consumption as Database Consumption

By emphasizing the mode of consumption over the images themselves, Azuma provides a method for the analysis of products generated by *otaku* culture, which is also applicable to the cultural products generated by other subcultures in the era of postmodernity. The postmodern database consumption model demonstrates how in the case of Vocaloid, a live performance by Hatsune Miku, i.e., the appearance on outer surface layer, cannot simply be explained as a virtual idol who performs songs that her fans write for her, i.e., a grand narrative. This is due to the fact that this kind of grand narrative would limit the use of Miku's voice to songs that are only meant to be sung by her character, despite the fact that this has not been the case ever since the Melt shock. Hence, the performance has to be analyzed as a small narrative, which is constructed through the accumulation of several data elements: the visual

performance of Miku and the song itself. In turn, these two elements are constructed from an accumulation of visual *moe*-elements, data elements from Miku's voicebank and the individual words that the lyrics are created from. All of these data elements are generated from different databases that consumers can empathize with of their own accord. On stage, Miku does therefore not merely represent herself as a character, but rather generates a representation of all the different data elements that have accumulated in that specific moment.

Following the logic of how narrative consumption transformed into database consumption, it becomes apparent how tremendously impactful the Melt Shock was on Vocaloid music consumption. The "imaginary character that sings" or "virtual idol" narrative that Crypton imparted on Hatsune Miku as a marketing strategy resulted in character songs such as *Miku Miku ni shite ageru*, conform Ōtuska's narrative consumption model. This much becomes evident in the reaction by Vocaloid fans to the Melt Shock, such as the assertion that the idol Hatsune Miku died, that singing about romance as a normal girl is out of character for Miku, or even going so far as to criticize *utaite* for covering songs by Miku on the basis that Vocaloid songs cannot be sung by human (embodied) voices (Keirō 2017). The small narrative of Miku being "an imaginary character that sings" established a set of rules for a grand narrative in which Miku cannot be anything else but a cute anime girl that can be installed on your computer and will sing (output) songs for you when you provide (input) her the words and music scores.

With the small narrative of *Melt* in which Miku is depicted as a school girl who can harbor romantic feelings, which does not at all abide by the rules of the grand narrative of the Vocaloid character Miku, Ryo most certainly delivered the first blow to the grand narrative initially established through the small narrative of Crypton's marketing strategy. Some of the fans were seemingly prepared to accept *Melt*'s small narrative as an addition to the initial grand narrative, saying that even though Miku is considered (the personification of) a software, she can still fall in love like any other girl as described in the song (NikuChomRanma 2021, 6:18-6:30). The final blow to shatter the grand narrative of Miku as a Vocaloid character was delivered by Halyosy's *utattemita* cover of the song and the wave of covers by the many *utaite* that followed his example, causing the Melt Shock. The shards that are left of this short-lived grand narrative turned into mere elements of the database of Vocaloid, and are now used in the creation of small narratives encapsulated by fan art, Vocaloid concerts and new character songs.

Until the Melt Shock, it was not possible to separate Miku from the first character songs because of the pre-existing grand narrative. Ryo was able to extend this grand narrative by injecting the small narrative of *Melt* into it, but was incapable of changing the relation between the grand narrative and the small narratives on his own. Meaning was therefore still residing in the way in which the small narratives relate to the grand narrative. Perhaps it would have become possible to place Miku in different situations, but it would not change the fact that the songs could only be sung by Miku, since such small narratives still would have to reflect Miku's story. This all changed when during the Melt Shock *utaite* suddenly started uploading covers of *Melt*. The *utattemita* covers did what *Melt* was not able to achieve on its own: it broke the relationship between the grand narrative and the small narratives by replacing the voice of Miku, which was so tightly intertwined with the Vocaloid character songs until then, with the many different voices of *utaite*. It separated the song from the voice, making a clear distinction between Vocaloid songs as an accumulation of data elements and the voice as one of those data elements. The listeners became aware of the double-layer structure of Vocaloid music, a structure strongly resembling Azuma's database model for *otaku* consumption.

Much like the *otaku* database model, in which characters constructed out of *moe*-elements are themselves considered to be part of an even bigger database of data elements to which small narratives refer, Vocaloid music is produced and consumed through a complex system of simulacra and databases that continuously refer to one another. The image of Miku is unmistakably constructed out of a database of *moe*-elements, much akin to any other manga or anime character as described by Azuma (2009, 39-52). The music however is constructed out of data elements from three databases: a database for musical composition, a database for the vocalization of the lyrics and a database for the lyrics themselves. VocaloP create new, original Vocaloid songs by combining the data elements in new ways. In the case of an original Vocaloid song, the database for the vocalization of the lyrics has a one-to-one relationship with the database of a Vocaloid voicebank. In the creation of derivative Vocaloid works, all of these data elements can be adjusted or replaced by other data elements or databases, much like how the Vocaloid voicebank as vocalization database is replaced by the voice of *utaite* in an *utattemita* cover. By this method, listeners can read up and empathize with all of these separate data elements presented to them through the abundance of derivative works of their own accord while derivative works are circulated in constant quotation of one another.

The Otaku Internet, where Vocaloid flourishes

Having established that both the *otaku* consumption model and the Vocaloid music consumption model are structured after Azuma's postmodern database model, it should be further addressed how *otaku* culture and Vocaloid music are related to one another. According to Azuma (2009, 31-32), the database model very closely resembles the structure of the Internet. The Internet has "no center," because there is no grand narrative that informs all webpages, but rather a database of accumulated data. The data is transformed into obtainable texts to the internet user once they read up on the computer screen, i.e., the outer surface layer (Azuma 2009, 31-32). Although such texts may reflect phenomena in the real world, it does so by first breaking information down into code (data) and then combine it again into the text one perceives on the outer surface layer. The data or code inside the database holds no meaning on its own, yet the moment an internet user reads up the data, meaning is created.

This resemblance is not exceptionally astounding, as the Internet has played an important role in the development of both third-generation *otaku* culture and Vocaloid music. To a certain extent, it can be said that the structure of the Internet is what has caused the development of database consumption. What is certain however, is that the third-generation of *otaku* grew up during the 1990s, experiencing the spread of the Internet. Consequently, their general fan activities moved to online spaces during this time (Azuma 2009, 7), in the same way amateur musicians started sharing their music online. *Otaku* began to communicate and engage with each other using 2channel, a simple Japanese bulletin board site launched in 1999 by Nishimura Hiroyuki. 2Channel soon turned into one of the most significant sites on the Japanese internet, allowing *otaku* to also engage with like-minded people who had not considered themselves *otaku* until then (Azuma 2009, 117; Steinberg 2019, 194).

As 2channel grew as a platform, it became increasingly more infamous for its association with Japanese net-right politics, although such net-right communication can be understood as "a cynical reaction to the mainstream mass media (…), which involved simply saying what should not be said" as a way to provoke further communication (Steinberg 2019, 193-195). Users were free to make such provocations because of the anonymity on the site. This anonymity and the provoking, cynical remarks created an internet culture characterized by its free-for-all "wild west" ethos (Steinberg 2019, 193-195). It is this internet culture that Niconico largely inherits from 2channel upon its release in early 2007. Moreover, this inheritance was all but coincidental, as Nishimura was very present in the development of

Niconico as a board member of Nwango, subsidiary of Dwango and parent company of Niconico, and 2channel users started using Niconico upon his recommendation (Steinberg 2019, 195-196). It was therefore not only *utaite* who migrated from 2channel to Niconico, but also *otaku*, along with their fan activities, e.g., MAD creation, and an internet culture characterized by anonymity and cynical remarks. Subsequently, Vocaloid music emerged on a platform which highly valued anonymity, centered itself around database consumption, and displayed an overall cynical attitude towards the mainstream.

Otaku's Sentimental Cynicism: Dysfunctional Society and Loss of Identity

The highly valued anonymity and overall cynical attitude towards the mainstream are both phenomena that can be further explained through *otaku* culture. Azuma even uses cynicism to further debate on the logic of postmodernity and the difference between narrative consumption and database consumption, in which the emphasis on fiction in *otaku* narrative consumption can be grasped as a form a consumer society's cynicism (2009, 66-74). In this context however, cynicism requires a belief in a semblance of the grand narrative, i.e., a fictional grand narrative. This, too, is lost in the shift from narrative consumption to database consumption. Yet it seems only fair to argue that in this shift, the cynical attitude towards the mainstream has become a part of the database of *otaku* culture, describing the behavior of *otaku* as cynical by referencing to data elements from *otaku* works from the 1980s that are characterized by this cynical attitude.

The origin of this cynical attitude towards the mainstream lies in the way in which the social values and standards of the modern grand narrative are dysfunctional to *otaku*. When the tree model collapses in reaction to the decline of the grand narrative, a consumer's identity is no longer determined by the grand narrative. *Otaku* recognize this loss of identity as the dysfunctionality of modern social values and standards, and desperately try to construct alternative values and standards, i.e., a fictional grand narrative, in the struggle to reconstruct their sense of identity. This struggle for a sense of identity is even encapsulated in the first usage of the word *otaku* as a second person pronoun to refer to each other. Usage of the term among *otaku* themselves was self-confirming and simultaneously self-deprecating, as it both confirmed their belonging as an *otaku* and denied their belonging to society on the basis of modern social values and standards (Morikawa 2012, 5-8). This self-consciousness thus added a nuance of an introspective search for identity to the word *otaku*.

The modern social values and standards that become dysfunctional for *otaku* in the early 1980s primarily address productivity. In modern Japanese society, the value of a man, i.e., his masculinity is measured in his productivity (Condry 2013, 187-190). This value was solidified in the dominant image of men: middle class, heterosexual and married salarymen, who financially provide for their family. This male stereotype was based on the age of modernity, when such a social position of productivity was easily attainable through academic achievement. However, when the economic success of the Bubble Economy came to an abrupt halt by the end of the 1980s, followed by an economic crisis, this male stereotype became unattainable for many young men (Morikawa 2012, 10-11). The self-conscious *otaku* concluded that without the high possibility of acquiring a stable social position of productivity through academic achievement, they were automatically predisposed to fail as an adult man in the eyes of society (Saitō 2011, xiv-xv). This sense of failure and loss of identity was only reinforced by the way in which media portrayed *otaku* in the wake of the Miyazaki incident.

Similar struggles exist for female *otaku*, although the differences in gender stereotypes have made it relatively easy for them to tactfully conceal their *otaku* tastes and interests from the outside world (Morikawa 2012, 15-16). Especially since the Miyazaki incident, both male and female *otaku* try to conceal their *otaku* activities in order to not be compared to a sex criminal, or be otherwise shamed or rejected by society for their lack of productivity. This is the primary reason why *otaku* value anonymity on websites such as Niconico and 2channel so highly. The anonymity on the Internet allows them to indulge in their *otaku* interests, while maintaining their face in the public eye.

The struggle for a sense of identity, the inclination towards failure and the necessity for concealment of *otaku* activities all capture the cynical attitude toward the mainstream. It is all part of the grand narrative of *otaku* culture, although even this narrative is now broken up into data elements that consumers can empathize with on their own accord by reading up the data elements that are reflective of their own identity. The data elements that refer to the cynical attitude within *otaku* culture thus evoke a sense of sentiment towards the *otaku*'s struggle with the decline of the grand narrative, and accumulate in the database of *otaku* culture's sentimental cynicism. The elements of this database of cynicism are circulated through *otaku* works that continuously quote one another, in a simultaneously self-confirming and self-deprecating manner similar to how *otaku* refer to themselves as *otaku*.

Sentimental Cynicism in Vocaloid Music

Traces of *otaku* culture in Vocaloid music become evident through the use of data elements that refer *otaku* culture's sentimental cynicism in Vocaloid works: "Obscuring identities" in order to conceal *otaku* activities from the public eye, "animated music videos" and "lyrics that describe a more downcast view on modern life," constructed from images and words that function as data elements that refer to the *otaku*'s struggle for identity and inclination towards failure, "with mostly all of it taking place on the Internet," which is ruled by an Internet culture that is strongly associated with *otaku* database consumption. These characteristics of Vocaloid music are all interconnected through a complex network of elements of *otaku* culture, constantly quoting each other in the construction of new small narratives on the outer surface layer.

Chapter 3 –Traces of *Otaku* Culture in Vocaloid Music

As demonstrated in Chapter 2, traces of *otaku* culture in Vocaloid music are evident in the constant quotation of data elements that express sentimental cynicism in the construction of new small narratives on the outer surface layer of the double-layered database consumption model. These traces of *otaku* culture are articulated in two ways: through the way in which credit is given, which demonstrates the continuous quotation of derivative works, and through specific words and phrases that are constantly quoted to express sentimental cynicism. To provide examples of the two ways in which Vocaloid music continuously refers to *otaku* culture, a small-scale qualitative multimodal discourse analysis of four popular karaoke Vocaloid songs will be conducted in this chapter.

Discourse Analysis of Popular Music

Discourse analysis is a research method that is used to analyze written or spoken text through which meaning is communicated. It is often applied in order to uncover the message behind a text by studying the way in which language is used in different ways of communication. When studying popular music using musical discourse analysis, there are three different types of text that can be analyzed: song lyrics as a performed language, discourse on or about popular music (e.g., interviews), or music as a discourse (e.g., sheet music) (Aleshinskaya 2013, 423-24). This use of musical discourse analysis is however limited to the analysis of language, and in particular verbal language. Although musical discourse is generally characterized by an intense use of nonverbal elements (Aleshinskaya 2013, 439-41), the way it is analyzed depends on the format of the music, the modes of communication and its importance to the study in question. Because most Vocaloid music is released in video format, not only language but also visual imagery is to be considered as an important mode of communication. Vocaloid music should therefore be analyzed using multimodal discourse analysis, which is specifically used to study the interplay between these two modes of communication and how this manipulates meaning (Helland 2018, 26-28).

Other components of musical discourse that are of great importance to discourse analysis besides the text, are social context, social agents and social relations. To put it simply, “social context determines the way in which social agents, who are in certain social relations, communicate with each other and what language they use” (Aleshinskaya 2013, 428). Clarification of the social context, social agents and their social relations is therefore an important part of the discourse analysis of a song. The notion of social context can vary

greatly in the sphere of popular music, from social factors to a time of communication (Aleshinskaya 2013, 428). In the case of Vocaloid music, it is the influence of *otaku* culture that has determined the way in which the social agents such as VocaloP and listeners communicate with each other and what type of words or images they use to do so, as suggested in the previous chapters.

In a previous study on the Japanese Chicana rap artist Mona AKA Sad Girl, Kirstin I. Helland (2018) analyzes six music videos by Mona by looking at the interplay between linguistic and other semiotic modes in the music videos, in order to show how the four main overlapping themes from Chicano rap and lowrider culture (hybrid identity, feminism, social justice and authenticity) have emerged and contribute to Mona's 'glocal hybrid identity' (28). Although the criteria on which the music videos are analyzed are not applicable to Vocaloid music, it still provides an excellent example of how multimodal discourse analysis can be used as a research method in order to uncover a message behind the music videos and how it is influenced by the social context. The song lyrics, visual imagery and other written verbal communication of four popular karaoke Vocaloid songs and its covers will be analyzed from a similar angle by specifically looking at the interplay of linguistic and visual modes in the music videos, in order to show how *otaku* culture's sentimental cynicism emerges in Vocaloid music and contribute to the strong relation between *otaku* culture and the Vocaloid community.

Credit Where Credit is Due

Besides the use of a *manga* or *anime* drawing style for most of Vocaloid music videos, it is the verbal communication that stands out most. Especially the way in which credit is given to those who participated in the production of the music video is significant. The people credited still use pseudonyms to protect their identity or rather, prevent their involvement in this type of *otaku* culture to be revealed in their everyday life. Nonetheless, the way in which credit is given, is exceptional in the sense that it is highlighted in both the description, as well as the imagery of the video. In the credits, the interplay between the text and the imagery is not necessarily one that provides additional information or nuance in the way an illustration might do. What is depicted in the video is verbal 'text' rather than imagery. This interplay between the imagery of the video as a whole, which the credits are a part of, and the description that accompanies the video on YouTube or Niconico creates an exceptional emphasis on the credits.

Most Vocaloid music videos are lyric videos, supported by partially animated illustrations. This emphasizes the lyrics through visual means. When it comes to the credits, this emphasizing effect becomes all the more intriguing considering how it is reinforced by the credits given in covers of Vocaloid music. In a similar manner to the original songs, the *utaite* will mention either the name of the original VocaloP or provide a link to the original song in the description box. Though in many cases, the VocaloP will provide the *utaite* with permission to use the original video, which means that the credits will also be shown in the video. Using Balloon's *Charles* as an example, one can see that the title of the video is the title of the song along with the name of the voicebank he used (V-flower), while in the description, he has listed the two creators of this song along with their Twitter handle, i.e., contact information (figure 3a):

Music: Balloon @balloon0120
Video: Avogado6 @avodago6

Figure 3a. The description of *Charles* on YouTube and Niconico.

In the video itself, during the instrumental part after the first opening sentences of the song, the title of the song is shown, followed by almost the same text (figure 3b):

Video: Avogado6
Vocal: V-flower
Music: Balloon

Figure 3b. Screenshots of the credits in the music video of *Charles* by Balloon.

When comparing six covers of *Charles* by prominent *utaite* however, several things become clear (figure 4). First of all, all *utaite* used the original video by Avogado6 for their covers. Second, they all clarified in the title that their upload of the songs is a cover, and not the original song: 96neko, Meychan and Soraru used *utattemita* in their title besides their own pseudonyms, while Amatsuki, Gero and Meychan (additionally) used 'cover' in English writing. Only Luz used 'ver.' as abbreviation of 'version' to indicate that his upload is a version of *Charles* sung by him. On top of that, Amatsuki and Meychan also mentioned 'Balloon' in the title of their covers. In the descriptions, Amatsuki, Gero, Meychan and Soraru also used the phrase "I was allowed to sing *Charles* by Balloon." 96Neko, Amatsuki, Gero and Soraru then used the word *honke-sama* 本家様 before providing a link to the original song. The word *honke-sama* literally means 'originator, head of family,' but is more uncommonly used to mean 'patent holder.' It is a term that is often used on image sharing websites such as pixiv.net to credit the original creator of an illustration, a character or other works they took inspiration from. In the Vocaloid community, it is used with the same intent when providing a link to an original song.

This use of credits and the high value placed upon them by both *utaite* and the original creators themselves highlights the importance of the original creators. In the case of covers, their abundance also suggests that there is a demand for many different versions of the same song. For example, listeners often express that they want a specific *utaite* to cover a new Vocaloid song by their favorite VocaloP. This shows that besides listening to the original Vocaloid song, listeners engage with various covers. In some cases, *utaite* may cover a song by a VocaloP that the listener does not know, but through the credits provided, the listener may look up the original song and perhaps other songs by the same VocaloP. Via this mechanism, Vocaloid music is spread through a network of derivative works, much like how content is shared within *otaku* culture, whilst constantly associated with the people involved in the production.

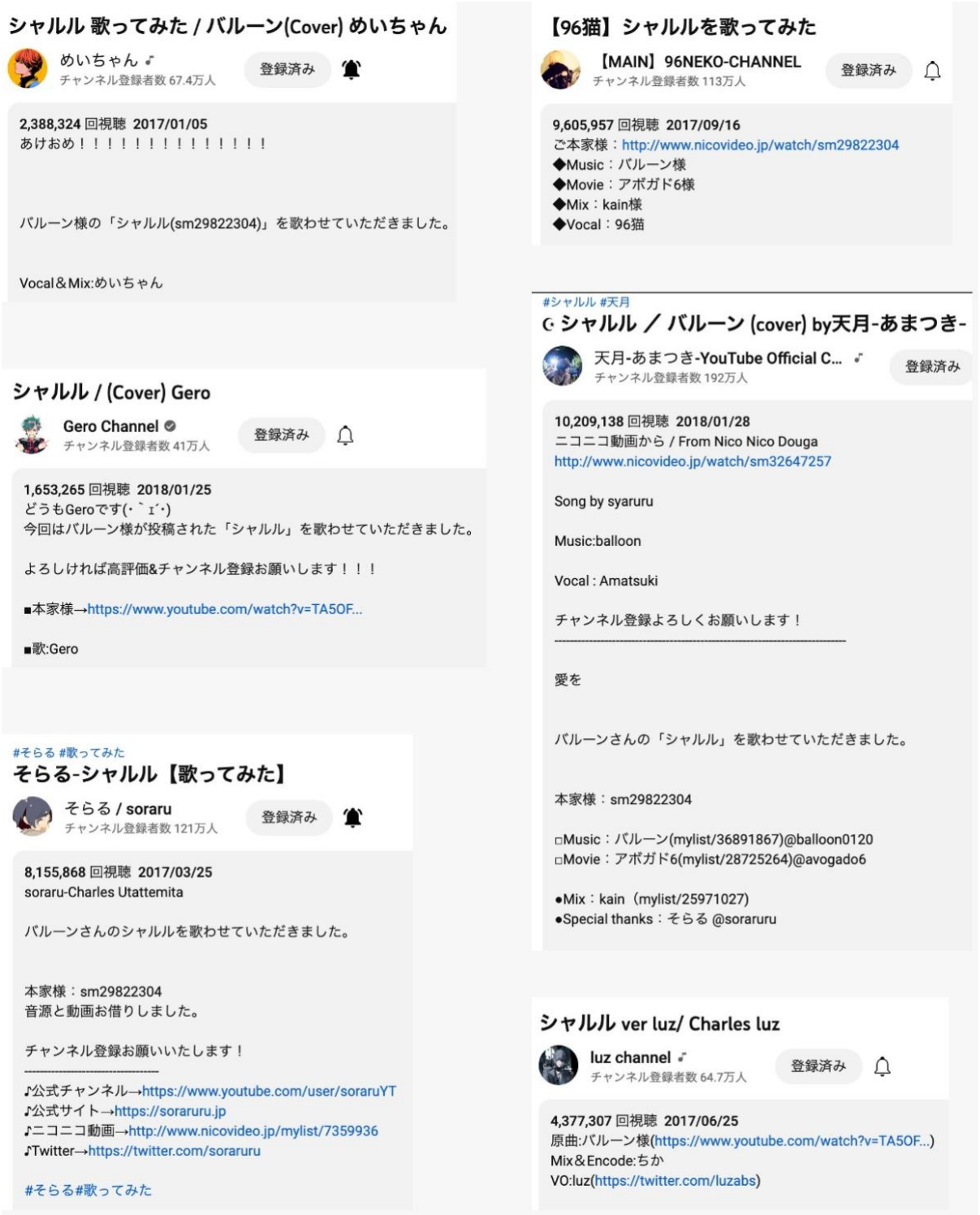

Figure 4 The video descriptions on YouTube of the various versions of *Charles* by the *utaite* Meychan, 96neko, Gero, Amatsuki, Soraru and Luz.

Expressions of Sentimental Cynicism, in Word and Image

By solely looking at the music videos using discourse analysis, without conducting an in-depth ethnographic analysis of the consumption patterns of listeners of Vocaloid music, it is challenging to determine how they consume and interpret data elements of *otaku* culture in Vocaloid songs. When it comes to Japanese popular music in general, Rafal Zaborowski's (2012) empirical data also provides a measure of insight into how listeners tend to consume and emotionally relate to songs: "Participants often disregarded the general message of a song in favor of particular (familiar) words and phrases. (…) They 'poached' elements of the content to create a unique meaning, (…) consuming only chosen parts of the product" (396). In other words, the participants of his ethnographic research were 'reading up' data elements. Through the combination of music and imagery in Vocaloid songs, certain elements of the lyrics are heavily emphasized, directing the attention of the listener to those specific elements as if carefully plated on a dish, ready for consumption. Following this perspective, the emphasized lyrics can easily be consumed as data elements regardless of the general message of the song, as long as the element is part of a database familiar to the listener.

Villain by Teniwoha is a good example of a song that uses data elements from *otaku* culture, even though the general message of the song is more related to non-heteronormative sexuality. The lyrics displayed in the video are the same as the song lyrics, except for two sentences in the first half of the song. While song lyrics are "*ratto reisu ichi nuketara tsūhō sareru*" (When you lose only one thing of the rat race, you will be arrested), the lyrics in the video read "*bakageta kyōsō*" (foolish competition) instead of "rat race." In the following sentence, the song lyrics are "*myūtanto janai, tada no boku sa*" (I'm not a mutant, I'm only me), the lyrics in the video read "*totsuzen hen'i*" (mutation) instead of "mutant." In both cases, Teniwoha used an English word in the song lyrics, while using a Japanese word in kanji characters with a slightly more nuanced meaning in the visual lyrics. This use of the imagery in the video provides extra information to the listener, as much as it directs the attention of the listener specifically to these two sentences.It is exactly these two sentences that together refer to *otaku* culture's cynical view on the social values and standards of the modern grand narrative: if you do not fully adhere to the social standards of becoming an adult, working a job, getting married to someone of the opposite sex and having children, you will be considered the outsider even if that is just the way you are.

Figure 5. Screenshots of *Villain* by Teniwoha.

Unlike *Villain*, *Lost One's Weeping* by Neru is more saturated with *otaku* elements. The song is set in a school environment, which is illustrated by the desks, the blackboard and the main character wearing a school uniform, as well as the lyrics themselves. The lyrics often give examples from school life that are strongly connected with *otaku* culture's sentimental cynicism. Popular songs that describe school life and the evolution from childhood (school life) into adulthood (work life) are nothing new, and is even emphasized in Zaborowski's article: "Many participants voiced that the gap between students and fulltime employees (…) involved a number of pressures, including the necessity to follow rigid social rules and fulfil expectations from above" (2012, 389). Even so, "(…) the respondents did not contest these pressures nor the societal norms forced on them (…)" (309). Neru provides a more cynical take on school life, as he actually demonstrates examples of how the dysfunctional social rules are already forced upon children in school. He questions what is 'righteousness' using words like *tadashii* (correct; righteous) and *fusekai* (incorrect) and expresses loss of identity (*mukosei no boku*; me, without personality). The latter phrase is accompanied by an image of the character with a blank sheet of paper stuck to their face, to emphasize the feeling of loss of identity (figure 6a).

Such expressions are truly abundant in the lyrics of this specific song. They are emphasized by using a larger font for the specific kanji characters or words by placing these in the center of the screen or by changing their color. Other words of importance to this analysis which are emphasized in such ways are *kanashii* (sad), *sabishii* (lonely), *kietai* (want to disappear), *shinitai* (want to die), *mō dōdatte ii ya* (I don't care anymore) and *dare* (who). The song questions who is responsible for them losing their sense of self, while claiming that the listener already knows who it was (figure 6b). Additionally, after questioning when they will finally be able to become an adult, they ask what 'being an adult' even means (figure 6c), further emphasizing the way the song questions social values and standards born from

the inability of becoming the ‘adult’ or ‘functioning member of society’ they feel pressured to become. At the climax of the song, in which all these emotions collide, the character is depicted strangling the version of itself without personality, further stressing how one is forced to choose between being themselves or adhering to societal rules. It is again confirmed in the song’s title: *Lost One’s Weeping*, or the lament of one who has lost their identity through the pressure of dysfunctional societal rules and values.

Figure 6a. Screenshots of *Lost One’s Weeping* by Neru, related to questioning righteousness and a loss of identity.

Figure 6b. Screenshots of *Lost One’s Weeping* by Neru, related to the loss of sense of self.

Figure 6c. Screenshots of *Lost One's Weeping* by Neru, related to questioning adulthood.

Figure 7. Screenshots of *Hated by Life Itself* by Kanzaki Iori, emphasizing the song lyrics through lack of illustration.

It is also these exact words and themes that make an appearance in *Hated by Life Itself* by Kanzaki Iori. Although the themes of school life and loss of identity are much less pronounced in the lyrics, many of the words and word combinations are similar to Neru's song. *Shinitai*, *tadashii* and *dō demo yokute* (I don't really care) are all phrases used in the early lines of the song. While not emphasized by font or color like in *Lost One's Weeping*, the imagery of the video forces listeners to focus on the lyrics: a white background, devoid of pictures, on which black lyrics scroll down like movie credits. The chorus, meanwhile, does not directly employ the same kind of expressions, but nevertheless conveys sentimental cynicism: *bokura wa inochi ni kirawarete iru, kachikan mo ego mo oshitsukete* (we are hated by life itself, pushing values and ego [upon ourselves]). Without referring to what those values entail, it demonstrates a cynical attitude towards conforming to societal values. After the chorus, the word *sabishii* is depicted in a large font, followed by a verse that discusses

discrepancies in social values and standards using words like *tadashii*, *dō demo yokute* and *kanashii*. The song is not very explicit about what exactly those social rules are or how they are dysfunctional, but the usage of the words as a way to quote other songs such as *Lost One's Weeping* and the heavy emphasis on these exact words through the lack of illustration leave little room for speculation: even if society makes you want to disappear, yet dying is also considered wrong, then live life in whichever way you want, instead of committing suicide.

References to Vocaloid in Vocaloid-related Music

This way of expressing sentimental cynicism in Vocaloid songs through quotation is what St. Michel (2021) refers to when writing "lyrics that depict a more downcast view on modern life" in Vocaloid music and in Ado's song *Usseiwa*. *Usseiwa* does not shy away from the expressions mentioned above: *tadashisa* (righteousness), *dō datte ii ze* (I don't care), the incongruity of being a good student (*yūtōsei*; honor student) yet not fitting in with society (*shakaijin ja tōzen no rūru desu. Ha? Ussei*; these are the obvious rules for being a functioning member of society. Huh? Shut up) and questioning whose fault this is (*kore wa dareka no sei*; this is someone's fault). All these expressions are also emphasized by the use of changes in font size and placement of lyrics, along with the anime-style illustrations (figure 8a). Like other Vocaloid songs, the video gives credit to the VocaloP and other creators by displaying their names, while they are also listed in the description of the video (figure 8b). Only a link to the *honke-sama* is missing, however, considering this is not a cover, listeners will not expect one either. Even so, Ado left another trace of the Vocaloid community in the description: a link to the instrumental version of the song, meaning other *utaite* are allowed to cover it. This once again reinforces the circulation of derivative works in constant quotation of one another.

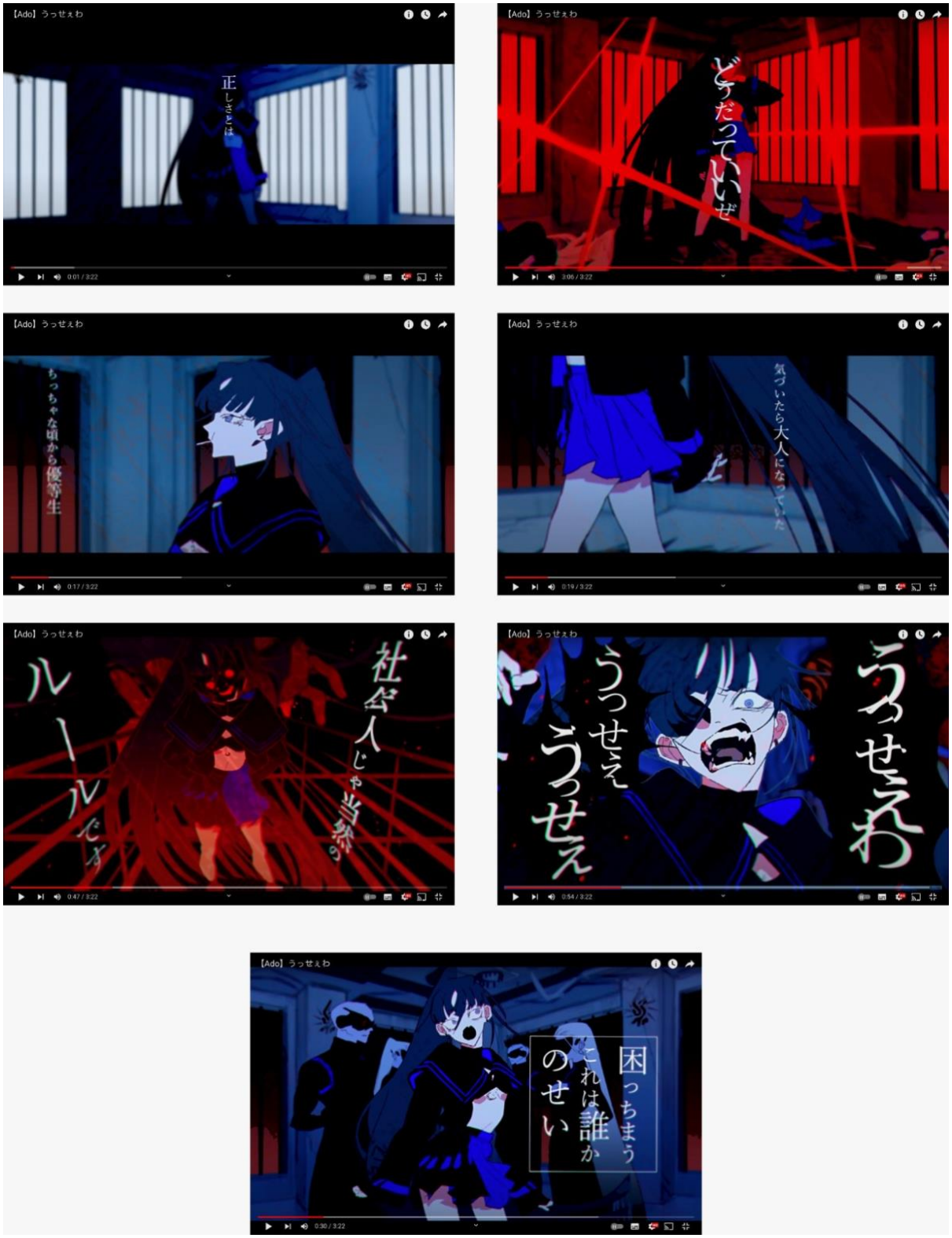

Figure 8a. Screenshots of *Usseiwa* by Ado, showcasing how the expressions referring to Vocaloid and *otaku* culture are highlighted in the imagery.

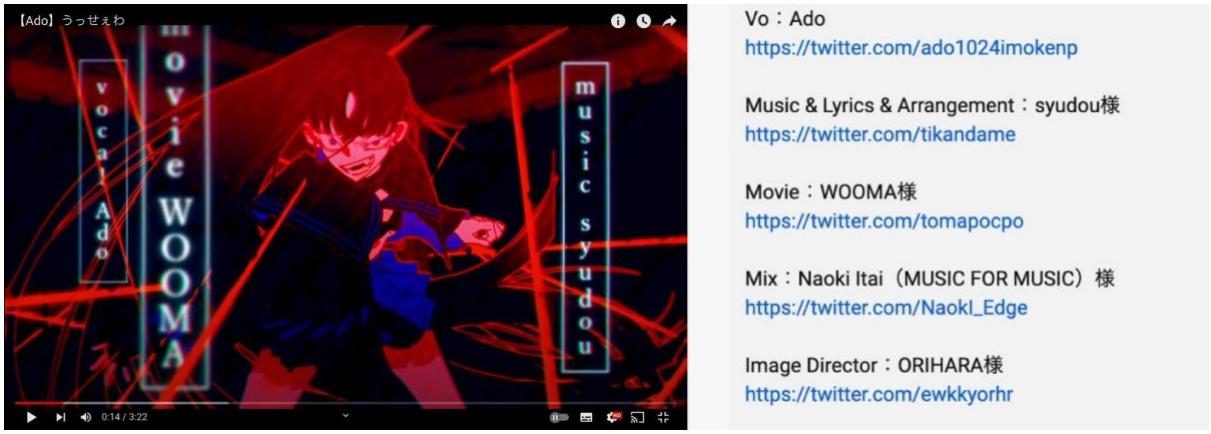

Figure 8b. Screenshots of *Usseiwa* by Ado, depicting how credit is given in both the video and the description on YouTube.

Conclusion – Miku's Future

Upon cursory inspection, Vocaloid is Hatsune Miku, and Miku is Vocaloid. The history of Vocaloid clarifies stridently, that matters are not as straightforward. The Vocaloid software was originally developed as an instrument, but in August 2007, Crypton started promoting their voicebank as a virtual idol as part of their marketing strategy. This strategy was successful, yet Miku's status as a virtual idol tremendously limited her use. In December 2007, this came to a swift end with the Melt Shock. The numerous covers of *Melt* sung by *utaite* separated the song from the voice, making a clear distinction between Vocaloid songs as an accumulation of data elements on the outer surface layer, and the voice as merely one of those elements, revealing Vocaloid music's double-layer structure akin to Azuma's database model for *otaku* consumption. Through this double-layer structure, Vocaloid songs constantly refer to data elements of *otaku* culture, while circulating elements of *otaku* culture's sentimental cynicism as the songs continuously quote each other in the construction of new small narratives. What is thus overlooked by studies that focus solely on Miku's image, is Vocaloid music's deep relation to *otaku* culture and how it manifests in other Vocaloid content produced on the outer surface layer.

By placing Vocaloid music as a whole into the context of *otaku* culture, it becomes evident that derivative works such as song covers are not mere secondary creations, but rather the key to Vocaloid's success. Especially *utaite* played a key role in this development, as the Melt Shock demonstrates by highlighting the interdependent relationship between VocaloP and *utaite*. Recently artists such as Eve, Ado and YOASOBI seemingly have recognized *utattemita* covers as the driving force of the Vocaloid community, as they upload instrumental versions of their songs to file-sharing websites, often without releasing a Vocaloid version. This way, up-and-coming artists with a background in Vocaloid music continue to make use of mechanics that define the Vocaloid community. Simultaneously, the themes of songs by such artists remain heavily inspired by Vocaloid and continue to reference elements from *otaku* culture's sentimental cynicism in their music videos. It demonstrates that a thorough understanding of the cultural history of Vocaloid music and its relation to *otaku* culture is essential to understanding in what way Vocaloid music is influencing Japanese popular music, and will continue to be of importance in further investigation as to why such songs are rising in popularity in Japan.

For future research, studying Vocaloid as a piece of software, an instrument, and an internet subculture will remain relevant in the fields of Humanities, Social Studies and

Musicology within broader contexts such as human-computer interaction, participatory culture and popular music. With the increasing international popularity of Virtual YouTubers (VTubers), a new wave of interest in virtual idols and internet subcultures is inevitable. For such research topics, it is of utmost importance that the difference between the role of Miku as a virtual idol and the role of VocaloP and *utaite* in the (re-)creation and distribution of Vocaloid music is properly delineated to prevent any misplaced comparisons between Miku and VTubers. They are, after all, very similar in appearance on the outer surface layer, yet Miku lacks any autonomy over her virtual body or voice that VTubers have. VTubers are more comparable to *utaite*, seeing as they often perform covers of Vocaloid songs. When conducting research on such topics similar to Vocaloid, extensive knowledge of the history of both the community and the content is necessary, as this thesis conclusively proves.

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Appendix 1 – List of Songs including Weblinks

Introduction

Lemon by Yonezu Kenshi 米津玄師 (formerly known as Hachi ハチ).

YouTube 2018, https://youtu.be/SX_ViT4Ra7k.

Kaikai kitan 廻廻奇譚 (Tremendously Mysterious Story) by Eve.

YouTube 2020, https://youtu.be/1tk1pqwrOys.

Usseiwa うっせぇわ (Shut Up) by Ado (music by Syudou (J. syudou, pron. Shudō)).

YouTube 2020, https://youtu.be/Qp3b-RXtz4w.

Niconico 2020, https://www.nicovideo.jp/watch/sm37761910.

Yoru ni Kakeru 夜に駆ける (Racing into the Night) by YOASOBI (VocaloP Ayase and singer Ikura (J. ikura)).

YouTube 2019, https://youtu.be/x8VYWazR5mE.

Niconico 2019, https://www.nicovideo.jp/watch/sm35979548.

Charles シャルル ft. V-flower by Balloon バルーン (a.k.a. Suda Keina 須田景凪).

YouTube 2016, https://youtu.be/TA5OFS_xX0c.

Niconico 2016, https://www.nicovideo.jp/watch/sm29822304.

Senbonzakura 千本桜 (One Thousand Cherry Trees) ft. Hatsune Miku by WhiteFlame (a.k.a. Kuro-usaP 黒うさ P).

YouTube, 2014, https://youtu.be/shs0rAiwsGQ.

Niconico 2011, https://www.nicovideo.jp/watch/sm15630734.

Charles シャルル (self-cover) by Balloon バルーン (a.k.a. Suda Keina 須田景凪).

YouTube 2016, https://youtu.be/VUIEJu4ZSUo.

Niconico 2016, https://www.nicovideo.jp/watch/sm29854242.

KING ft. GUMI by Kanaria.

YouTube 2020, https://youtu.be/cm-l2h6GB8Q.

Niconico 2020, https://www.nicovideo.jp/watch/sm37287661.

Good-bye Declaration (*Good-bye sengen* グッバイ宣言) ft. V-flower by Chinozo.

YouTube 2020, https://youtu.be/dHXC_ahjtEE.

Niconico 2020, https://www.nicovideo.jp/watch/sm36668789.

The Disappearance of Hatsune Miku (*Hatsune Miku no shōshitsu* 初音ミクの消失) ft. Hatsune Miku by CosMo (J. cosMo, a.k.a. BōsōP 暴走 P).
YouTube 2018, https://youtu.be/VWVtIg5cdDU.
Niconico 2008, https://www.nicovideo.jp/watch/sm2937784.

Chapter 1 – An Introduction to Vocaloid

Ievan Polkka ft. Hatsune Miku (cover) by Otomania.
Niconico 2007, https://www.nicovideo.jp/watch/sm982882.

Miku Miku ni shite ageru みくみくにしてあげる (I will make you go Miku-Miku) ft. Hatsune Miku by Ika (J. ika).
Niconico 2007, https://www.nicovideo.jp/watch/sm1097445.

Melt メルト ft. Hatsune Miku by Ryo (J. ryo).
Niconico 2007, https://www.nicovideo.jp/watch/sm1715919.

Senbonzakura 千本桜 (One Thousand Cherry Trees) ft. Hatsune Miku by WhiteFlame.
See Appendix 1, Chapter 1.

Charles シャルル ft. V-flower by Balloon バルーン.
See Appendix 1, Chapter 1

KING ft. GUMI by Kanaria.
See Appendix 1, Chapter 1.

'Meruto' o utattemita (dansei kī age Ver.) 「メルト」を歌ってみた（男性キー上げ Ver.）(I tried to sing 'Melt' (Male key +1 version)) cover by Halyosy (J. halyosy, pron. Haruyoshi).
Niconico 2007, https://www.nicovideo.jp/watch/sm1754685.

Meruto utattemita メルト　うたってみた cover by Gazelle (J. Gazeru ガゼル, a.k.a. Yanagi Nagi).
Niconico 2007, deleted by original uploader.

Chapter 2 – Beyond the Image: Vocaloid and its Relation to Otaku *Culture*

Yoru ni Kakeru 夜に駆ける (Racing into the Night) by YOASOBI (VocaloP Ayase and singer Ikura (J. ikura)).
See Appendix 1, Introduction.

Usseiwa うっせぇわ (Shut Up) by Ado (music by Syudou (J. syudou, pron. Shudō)).
See Appendix 1, Introduction.

Miku Miku ni shite ageru みくみくにしてあげる (I will make you go Miku-Miku) ft. Hatsune Miku by Ika (J. ika).

See Appendix 1, Chapter 1.

Melt メルト ft. Hatsune Miku by Ryo (J. ryo).

See Appendix 1, Chapter 1.

'Meruto' o utattemita (dansei kī age Ver.) 「メルト」を歌ってみた（男性キー上げ Ver.）(I tried to sing 'Melt' (Male key +1 version)) cover by Halyosy (J. halyosy, pron. Haruyoshi).

See Appendix 1, Chapter 1.

Chapter 3 – Vocaloid's Downcast View on Modern Life

Charles シャルル ft. V-flower by Balloon バルーン.

See Appendix 1, Introduction.

I tried to sing Charles (*Sharuru o utattemita* シャルルを歌ってみた) cover by 96neko 96 猫.

YouTube 2017, https://youtu.be/j_wZxkqrYoE.

Niconico 2017, https://www.nicovideo.jp/watch/sm31927805.

I tried to sing "Charles" (*"Sharuru o utattemita*「シャルル」を歌ってみた) cover by Amatsuki 天月−あまつき−.

YouTube 2018, https://youtu.be/UXHH7AFZ5lc.

Niconico 2018, https://www.nicovideo.jp/watch/sm32647257.

Charles (cover) (*Sharuru / (cover)* シャルル / (cover)) cover by Gero (on YouTube only).

YouTube 2018, https://youtu.be/dSsdhqHgJz4.

I tried to sing "Charles" ver. Gero (*"Sharuru" utattemita ver. Gero* 【シャルル】歌ってみた ver. Gero) cover by Gero (on Niconico only).

Niconico 2018, https://www.nicovideo.jp/watch/sm32628563.

Charles ver Luz (*Sharuru ver Luz* シャルル ver Luz) cover by Luz (on YouTube only).

YouTube 2017, https://youtu.be/jhV-9KBZmV4.

I tried to sing Charles (*Sharuru utattemita* シャルル　歌ってみた) cover by Luz (on Niconico only.

Niconico 2017, https://www.nicovideo.jp/watch/sm31451137.

I tried to sing Charles by Balloon (*Sharuru utattemita / Barūn* シャルル　歌ってみた / バルーン) cover by Meychan めいちゃん.

YouTube 2017, https://youtu.be/2-OuZdRj6xQ.

Niconico 2017, https://www.nicovideo.jp/watch/sm30372893.

I tried to sing Charles (*Sharuru utattemita* シャルル　歌ってみた) cover by Soraru そらる.

YouTube 2017, https://youtu.be/MVIOvtPnLfc.

Niconico 2017, https://www.nicovideo.jp/watch/sm30884536.

Villain ヴィラン ft. V-flower by Teniwoha てにをは.

YouTube 2020, https://youtu.be/p9FJXfGHtDA.

Niconico 2020, https://www.nicovideo.jp/watch/sm36332327.

Lost One's Weeping (*Losuto wan no gōkoku* ロストワンの号哭) ft. Kagamine Rin by Neru.

YouTube 2017, https://youtu.be/8oBV3jPTW4s.

Niconico 2013, https://www.nicovideo.jp/watch/sm20244918.

Hated by Life Itself (*Inochi ni kirawareteiru* 命に嫌われている) ft. Hatsune Miku by Kanzaki Iori カンザキイオリ.

YouTube 2017, https://youtu.be/0HYm60Mjm0k.

Niconico 2017, https://www.nicovideo.jp/watch/sm31700140.

Usseiwa うっせぇわ (Shut Up) by Ado (music by Syudou (J. syudou, pron. Shudō)).

See Appendix 1, Introduction.

Conclusion – Miku's Future

Kaikai kitan 廻廻奇譚 (Tremendously Mysterious Story) by Eve.

See Appendix 1, Introduction.

Usseiwa うっせぇわ (Shut Up) by Ado (music by Syudou (J. syudou, pron. Shudō)).

See Appendix 1, Introduction.

Yoru ni Kakeru 夜に駆ける (Racing into the Night) by YOASOBI (VocaloP Ayase and singer Ikura (J. ikura)).

See Appendix 1, Introduction.

Appendix 2 – Further Readings on Vocaloid, *Otaku* and Japanese Popular Music

Vocaloid

Doi Takayoshi 土井隆義. 2014. “AKB48 no sō, Hatsune Miku no utsu: komyuryoku shijō shugi no hikari to kage” AKB48 の躁, 初音ミクの鬱 : コミュ力至上主義の光と影. *Tsukuba daigaku shakaigaku jānaru* 筑波大学社会学ジャーナル 39(1), 1-22. https://ci.nii.ac.jp/naid/120005575449. Accessed December 20, 2019.

Katano Kōichi and Ishida Minoru 片野浩一・石田実. 2017. *Komyuniti jenereishon – “Hatsune Miku” to yūzā seisei kontentsu ga tsunagu nettowāku* コミュニティ・ジェネレーション–「初音ミク」とユーザー生成コンテンツがつなぐネットワーク. Tokyo: Chikura Shobō.

Prior, Nick. 2018. “On Vocal Assemblages: From Edison to Miku.” *Contemporary Music Review*, 37(5-6): 488-506. DOI: 10.1080/07494467.2017.1402467. Accessed October 21, 2022.

Otaku

Ito, Mizuko, Daisuke Okabe and Izumi Tsuji, ed. 2012. *Fandom Unbound: Otaku Culture in a Connected World*. New Haven; London: Yale University Press.

Japanese Popular Music

Yano, Christine and Hosokawa Shūhei. 2017. "Popular music in modern Japan." In *The Ashgate Research Companion to Japanese Music*, edited by Alison McQueen Tokita and David W. Hughes, 345-62. London; New York: Routledge. https://doi-org.ezproxy.leidenuniv.nl:2443/10.4324/9781315172354. Accessed November 11, 2020.