Autotune's Impact on Music Aesthetics

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Tianyue Guo
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On my honor as a University Student, I have neither given nor received unauthorized aid on this
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Advisor
Kent Wayland, Department of Engineering and Society

Introduction

Popular music has been incredibly influential in shaping American society and even the world. Not only does it provide the main means of entertainment, but also it establishes the basic tone of popular culture in the United States. Technology advancement over the past years has completely altered how music is created and recorded, especially in the area of automation. More specifically, the creation of autotune, a vocal processing tool that has become a mainstay of contemporary popular music production, is one of the most prominent changes.

Autotune is an automated pitch correction technology long used in popular music. Essentially, when a musician sings into a microphone, the voice is adjusted to fit the notes of chosen instruments (Murphy, 2022). Autotune is primarily used by musicians and singers because it is an extremely useful and convenient tool for music production: it helps tighten up pitch imperfections, create vocal effects, improve live performances, etc (George, n.d.). Pop music singers and songwriters can directly benefit from this technology. Some of them state that autotune, like synthesizers in the 1970s, opens up new possibilities for music creation and that people should not be afraid of trying new things (Gill, 2001). On the other hand, other pop musicians despise this trend and believe that autotune is too widely used. A common complaint of modern music is that it sounds worse in terms of music production and tastes (StereoMonoSunday, 2019). A general question can be raised from here: what effects does autotune bring to music aesthetics of the general public? Since I have always been a musicophile with cultural and educational background in China and the U.S., I will be investigating this question under a comparative study of American and Chinese pop music. The result of this research could provide insight into how cultural differences influence the perception of music

aesthetics, not only for music listeners on either side of culture, but also for cross-cultural music listeners like me. It could also help readers understand better why complaints exist by conducting a case study on autotune and help readers understand how autotune shapes the pop music industry in the U.S. and China under different cultural contexts.

Background & Context of the Question: The pop music industry in the U.S. and China

As the origin of the autotune technology, the American music industry has been more actively involved in embracing this technology than the Chinese music industry. Catherine Provenzano, assistant professor of musicology at UCLA, once wrote a book in 2018 about autotune in pop music. She introduces what is autotune and what "auto" means in this context. Autotune is a software plugin invented in 1998 and emerged in the pop music world in Cher's 1998 hit "Believe". "Auto" means that users don't need to intervene with the program. The use of autotune is mainly divided into two types: autotuning and pitch correction. Autotuning corresponds to some specific audible effects, which intentionally changes the pitch in a noticeable way. It can be applied after performance by a technician to achieve a specific vocal effect, such as robotic or electronic sounding. It can be timbrally expensive, as the application of overt effects could result in loss of recognizability of the original voice. Pitch correction, however, is more subtle in terms of levels of detectability in the finished product. In this case, autotune with pitch correction fixes pitch errors and smooth out small variations while the original tone of the voice sounds the same. As indicated before, some American musicians are directly benefited and impacted by the emergence of autotune technology. T-Pain, the famous R&B singer and rapper, claimed that he enjoys talking about technologies used behind his music,

and he even studies them to "better understand his craft" (Sniderman, 2011). He embraced autotune in his music creation because he believed that "anyone's voice is just another instrument added to the music" (Sniderman, 2011). On the other hand, other American musicians argue that the imperfection and off-keys in pitches and vocals actually diversify the aesthetics of music, and the occurrence of autotune unifies all sorts of music creation into a standardized form, which is detrimental to the development of music creation (Provenzano, 2018). To them, the distinct recognizability is more important to a musician than virtuosic pitch performance. Trey Parker, a famous film director, once found through experimentation that one has to sing off-key in order to have autotune come into effect, and hence he claimed that only bad singers would use autotune (Raiwet, n.d.).

The Chinese pop music industry ("C-pop") has been continuously under the influence of American pop and rap musical culture as well as the Chinese authority's censorship since the 1980s. Pop music started in China with the open and reform policy beginning in 1978. Teresa Teng, a Taiwanese singer, particularly represents the icon of reform in China: her songs, which successfully incorporated western and eastern styles, have been widespread in China since the 1980s. Her songs were influential not only in commercial aspects but also in cultural and political ones as well. Many pop singers' musical styles in Mainland China afterwards have been deeply affected by Teng's music. During the 1980s and 1990s, Cantopop and Taiwanese pop music were rising. Later in the 1990s, Mandarin pop music started to become popular. Jay Chou, who is unquestionably the most popular singer in the Chinese pop music industry, also managed to form fusion between western capital and Chineseness with his songs in various genres. His music generally incorporates Chinese melody with western hip-hop and rap music. Therefore,

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there is no doubt that Chinese musicians have been incorporating American pop music elements into their work. Sound and production techniques like autotune are not exceptions to the incorporation. Some Chinese musicians claim that autotune can also help better convey expressions and feelings. In a documentary in 2020, a famous rap singer named Kris Wu, who frequently uses autotune in his recorded songs and live performances, claimed that autotune was merely a filter, not Photoshop.

Therefore, it can be argued that there are several social groups involved around this issue: American/Chinese musicians, music listeners, and music critics.

Relevant Literature

It is argued that Digital Tuning and Auto-tune can bring emotional signals to music listeners (Provenzano, 2019). "Emotional Signals" is a critical ethnography and cultural history of pitch correction software and their uses in hip-hop and pop music. Catherine conducted studies in several cities with various social groups, such as audio engineers, software developers, performers, and listeners. She argues that the meaning and labor of the voices are separated, meaning that the auto-corrected pitches are not inauthentic; rather, they provide emotional richness to the music via audio engineering techniques and vocal performance.

Methods

In order to investigate this issue, I will focus on the comparison between American and Chinese pop music. I will investigate how autotune plays an important role in American pop music by conducting case studies on famous American pop/rap singers who heavily rely on autotune for

music composition, such as T-Pain and Taylor Swift. This will be conducted by reading music critiques of some most famous auto-tuned songs of these singers and collecting these songs' popularity-related data from platforms like Spotify or YouTube. This will help readers understand how American pop music listeners perceive autotune and to what extent it is welcomed in the American pop music industry. The same type of data and critiques will be collected for Chinese pop music. The critiques will be collected by reading through C-pop related news articles in China (i.e. on Entertainment sections of Tencent Media). The popularity-related data will be collected on the streaming services. In the discussion section, I will talk about the similarities and differences about usage of the autotune technologies between these two music industries, and conclude the reasons behind them by referring to scholarly papers on music cultures of these two countries.

Results

American rap music - T-Pain

According to Catherine Provenzano, T-Pain, the king of autotune, sparked a neoliberal debate with the anxieties that go along with autotune technology (Provenzano, 2018). From the late 2000s through 2011's "rEVOLVEr", T-Pain had several songs that consistently employ autotune technology, which got him nominated for eleven Grammy Awards between 2008 and 2010 and launched him to become a commercial and critical star.

T-Pain's album "Epiphany", which is his second studio album released in 2007, got him famous for his use of autotune technology. Generally speaking, this album received positive reviews from professional critics, especially for his use of autotune. David Jeffries from AllMusic

commented that T-Pain's album "Epiphany" had become more mature, and "sleek and consistently hooky"(Jeffries, n.d.). Quite a few music listeners also praised this album for the use of autotune. On sputnikmusic, a music listener "Iluvatar" posted a review, stating that T-Pain showcased his personality with his top notch production aesthetics and mellow R&B tunes (Iluvatar, 2007). On Album of the Year, in the comment section of this album's review, music listener "Deft" described T-Pain as the "autotune goat" with "a ton of charisma in his songs" (Deft, 2023). Another listener "hazza5410" believes that T-Pain's influence is underrated as he "mastered and pioneered the use of autotune" (hazza5410, 2023).

His album "rEVOLVEr" is the fourth studio album released on December 6, 2011. T-Pain put two R's uncapitalized on the cover of this album so that it says "evolve" in the middle, signifying the evolution of T-Pain as an artist and a person from the last album. He also claimed that album's overall purpose was to demonstrate how easily people can be duped and come to the wrong conclusions without full understanding of things (T-Pain, n.d.). Despite the creative brand name, T-Pain still invoked several critiques about not making actual music. At this stage of the music industry, the popularity of autotune seems to be decaying. According to Jesse Cataldo from Slant Magazine, there is an absolute absence of evolution on "rEVOLVEr". Cataldo continues to state that despite T-Pain's efforts of employing autotune to enhance reality, the songs are still terrible purely due to themselves, where there is no spark, life, or individual charm that can be extracted from the mechanical singing and trend-chasing (Cataldo, 2011). David Jeffries from AllMusic rated "rEVOLVEr" 3.5 out of 5 stars and described it as an album that makes little sense and has little purpose. David also commented that this fourth album isn't a great step forward for the Auto-Tune King. However, David also claimed, on the other hand, that in spite of T-Pain's

overuse of autotune, his versatility as a vocalist and producer still remains in the album (Jeffries, n.d.). Other critics, such as Jayson Greene from Pitchfork and Jody Rosen from Rolling Stone, also criticized the album's lack of cohesion and overuse of autotune technology.

As mentioned above, the popularity-related data is investigated by looking at data from Spotify. Spotify popularity index, which is calculated by total streams of a song, how recently a song is played and how frequently a song is played, can be used as a perfect representative of popularity data (Alexis, 2022). Several online free tools help collect such data. Looking at the statistics on Songstats, of the top 10 most popular T-Pain songs, there is not one from "rEVOLVEr" (Songstats, n.d.). According to Musictax, the spotify popularity index is shown for every song of this album. By taking the average of each song's popularity index, it can be observed that the average popularity of this album is only 33.6% (Musictax, 2011).

American pop music - Taylor Swift

Taylor Swift's producer also incorporates autotune into music production; however, it was used more like intonation correction and vocal timbre amplification instead of as a special effect (Provenzano, 2018). Catherine commented that as Taylor Swift doesn't possess a voice that acts without technological assistance, the worth of her singing depends on her emotional expressiveness and unjaded sincerity, which she was entirely qualified for. Critic Ann Power of Swift's album 1989 commented that even if autotune is in use in this album, it was well disguised by other aspects such as vocal treatments and emotions (Provenzano, 2018). On the other hand, critics like Jon Caramanica from the New York Times, asserted that Swift doesn't have a voice gift and her voice seems to be very "processed"; comments like this demonstrate

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that her credibility for authenticity is questioned (Provenzano, 2018). Her use of autotune has been a topic of debate when it comes to the impact on the authenticity of her music production. Some music listeners believe that her use of voice-altering software demonstrates her lack of vocal talent (Conor, 2022). However, it is worth noting that the application of autotune helps her add polish to the sound and fix mistakes, which not immediately noticeable (Trigger, 2012). Even though Taylor Swift's album was published in 2014, among the current 10 most popular songs of Taylor Swift, there are still two songs from this album that are listed (Songstats, n.d.). From Musicstax, by taking the average of each song's Spotify popularity index, the average popularity of this album is around 60% (Musictax, 2014).

Chinese pop music - Kris Wu

As a Canadian rapper emigrated from Guangdong, China, Wu was active as a solo musician and actor in Mainland China. As mentioned before, during an interview with Tencent News, Kris Wu addressed the criticism of overusing autotune in his solo albums that all the modifications done by autotune are just beauty filters. In this sense, Kris Wu used autotune in a way that is leaning more towards pitch correction instead of a special effect.

Kris Wu released his debut album "Antares" in 2018, where most of the songs are written in English in spite of his Chinese origin. Many music listeners on Zhihu, Chinese version of Quora, were debating about the quality of this album as well. They generally agreed on the fact that the overall quality cannot compete with the greatest rappers in the United States; however, in Mainland China as hiphop music was not as widely popularized, this album still became an outstanding representation of Chinese hip hop music. The audience seemed to be focusing more

on criticizing and commenting on other aspects, such as lyrical composition, rhyme, etc (YaoGunSiTuZi, & NiMingYongHu, 2017). However, according to another Zhihu forum post with specific discussion on his use of autotune, commentators generally disapproved of the idea. The most popular commentator under this post said that as a pioneer in the field of Chinese hip-hop, Kris Wu didn't lead a perfect example in incorporation of autotune technology (YSJ-HASO, 2020). He successfully managed to popularize the autotune technology in rap music production through his songs and his reputation. However, his excessive reliance on autotuning the special effects lead to omittance of other musical aspects, such as lyrics and rhythms, which is the main reason why music listeners are dissatisfied (YSJ-HASO, 2020). According to analytics on Songstats, there are four songs from the album "Antares" that are ranked as his top 10 most popular songs. Musicstax shows that the average Spotify popularity index is 30.5%, however, it should also be noted that Kris Wu's popularity index is 38%, since most Chinese music listeners don't have access to Spotify Music. In addition, due to the fact that he was sentenced to 13 years in jail for rape in China, his music publications were banned from all Chinese streaming services, resulting in lack of popularity-related data from major music platforms (Reuters in Beijing, 2022).

Discussion

Comparison and difference

As the results show above, the general trend demonstrates that in both American and Chinese music industries, the acceptance of autotune technology hinges on the extent of its usage. The overuse of autotune technology could lead to initial success for a musician, such as T-Pain. Adding special effects could embed new flavors into the music production. However, as the

technology is being repeatedly overused, its popularity could also diminish over time. T-Pain, for example, has been very successful at first (in 2007), and this brings him growing popularity between 2008 and 2010. However, in the album released in 2011, the lack of creativity in integration of autotune technology leads to lower ratings among music critics and listeners. The same thing happens to Kris Wu as well, where his overuse of autotune technology didn't exemplify his rap music talent. On the other hand, if autotune is merely used as a pitch correction, which is a subtler way of voice processing, the possibility of acceptance is evidently higher. In the case of Taylor Swift, even though professional critics still picked up mechanical parts in her voice, her music was still widely accepted by the general music listeners, since "autotuned voice" was well camouflaged by numerous other aspects of a song, such as expressiveness.

On the other hand, there are some differences in regards to autotune technology in these two music industries. The general acceptance and popularity of autotune technology in China seems to be lower due to the fact that autotune technology was only recently introduced from America, which follows the historical trend of Chinese music industry development, as mentioned in the background section. The lack of experience in using autotune technology leads to lower quality and quantity of music production (LEAN, & AspienoD-el, 2021). Take Chinese rap music for an example: compared with the successful application of autotune by famous American rappers like Kanye West, autotune in Chinese rap music disappoints their fans since the rap singers only achieve imitation but not unique creation. Rap stars like Krist Wu were anticipated to become a pioneer in autotuned rap music production but nonetheless failed fulfilling expectations. In addition, apart from the autotune technology itself, other voice processing modifications have

been constantly applied not only in studios, but also in countless popular live TV singing shows because it's difficult for singers to maintain the voice performance while singing and dancing (Wang, 2020). The general public generally dislike overusing voice processing modifications on TV live show because they believe autotune make singers' voices sound incredibly unnatural (Wang, 2020). According to a comment on Zhihu discussion forum, the reason why Chinese-speaking music listeners dislike autotune could also be the linguistic trait of Mandarin Chinese as a tonal language: since the autotune technology could potentially bring uncontrollable changes to the tone of the lyrics, which would cause confusions for music listeners to comprehend the meanings (LEAN, & AspienoD-el, 2021). Therefore, this trend could also potentially lead to the aversion of autotune technology, which shares similar features with other voice modifications tools, especially if autotune technology is ever popularized in Chinese music industry in the future.

Conclusion

Overall, it can be concluded that the autotune effect is more broadly welcomed in the American music listener's musical aesthetics, even though uncreative overuse is still not accepted. The reason is that the experimentations conducted by singers like T-Pain in the 2000s and early 2010s facilitate the maturation of autotune technology, encouraging greater variety of applications. Whereas in China, since the autotune technology was introduced not long ago, its application has yet to be well recognized by most music listeners and has yet to be well formed to impress rap fans. The next step for the research could be expanding on the current scope of investigation and closely examining more representatives of famous American and Chinese pop singers. The representation of the American and Chinese pop music industry can not solely

depend on one or two singers. The same applies to music listeners as well: more detailed

discussions on each music group's aesthetics can be incorporated into further study.

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