Choe Mu-Seon and The Early Era of Wokou Piracy: Catalyst for the Development of Gunpowder in Korea, A precursor of Korea-Japan Diplomacy

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Abstract

This paper asserts that Korean engineer Choi Mu-Seon indirectly established the first case of formal interaction between Korea and Japan. This claim is supported through the proper consideration of three narratives: that of Choi Mu-Seon, of Wokou piracy, and of the Joseon-Tushima Treaties. Choi Mu-Seon's pioneering efforts to develop gunpowder outside of China, further advancing weaponry in Korea, culminated in Joseon's military victory over the Wokou Pirates' stronghold on Tsushima Island during the Gihae Eastern Expedition in 1419. As a result, formal Japanese clans would manifest their new respect for Joseon by taking an obliging stance to Joseon terms of sovereignty, though the relationship would be more or less mutually beneficial with respect to trade and security. This assertion's significance is one of constructive application: by retrospectively analyzing historical context and tendencies to better set the landscape and quality of the future.

Introduction

The year is 1325 in the town of Yeong-Cheon in the Kyung Sang Book province, and in the private palace of Goryeo aristocrat Choi Dong-Soon, a baby boy is born and given the name Choi Mu-Seon. He would grow to be the region’s premier and archetype scientist, pioneering science in general but more precisely by means of developing gunpowder and weaponry.

His rise would come to fruition at the start of the first of two eras of abundant piracy. The great frequency and severity of attacks by predominantly Japanese bandits, expanding to include Chinese and other ethnic groups in the
later era, gave birth to the term ‘Wokou piracy.’ *Wo* is Chinese or Japanese for dwarves and *Kou* means bandit.⁸

Choi Mu-Seon is a man of his time in that he owes much of his productivity to the reactionary circumstance of first combating the monopoly and secrecy of Chinese gunpowder and later the threat of Wokou piracy. However, he is also a man in his own right, as he harbored a natural passion for gunpowder, stemming from firework shows he would watch as a child in his family’s palace.

Ultimately, these factors considered, Choi Mu-Seon, single-handedly pioneered the development of gunpowder outside of China, in Korea. Furthermore, this technological leap for Korea resulted in military prowess and allowed for an unprecedented diplomatic dynamic to emerge between Korea and Japan. This novel assertion is reasoned on the grounds that the case of treaties between Tsushima Island and Joseon Korea, an early example of any formally mutual contractual relationship between Japan and Korea, was made inevitable by Japan’s unavoidable acknowledgement and new respect of Joseon for its victory over the Wokou pirates during the Gihae Eastern Expedition, a direct result of Choi Mu-Seon’s efforts.

**The Two Eras of Wokou Piracy: Background and Demographics**

The early era of Wokou piracy, occurring from the 14th century, consisted of constant and brutal attacks on the coastlines along the peripheral islands of Japan including Iki, Tsushima, and the Goto Islands, meaning that China, Korea, and even Japan itself were all victims.⁹ The pirates of this early period were largely Japanese in ethnicity. However, some Goryeo records depict only 0.57% or 3 out of

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⁹ 太田弘毅「倭寇: 日本あふれ活動史」文芸社, p. 98.
529 of Wokou pirates as ethnically Japanese.\textsuperscript{10} Some exclaim that none of the early Wokou pirates were Japanese, but rather were of ethnicities of southern China and its trade partners. Despite the contradictory beliefs, the widely accepted view is that, while most were ethnically Japanese, the Wokou pirates of the early era consisted of a variety of ethnicities instead of a sole group.\textsuperscript{11} A Japanese scholar by the name of Shosuke Murai, saw the Wokou as marginal men who resided within politically distraught regions of no formal allegiances.\textsuperscript{12} An early Wokou leader, known as Ajibaldo, a Korean and Mongolian name, was considered Mongolian, Japanese, Korean, and a generic islander.\textsuperscript{13} The demographics of Wokou pirates in the second era during the 16\textsuperscript{th} century is less disputed, with an acknowledged account of only 20% being Japanese while 70% were Chinese and 10% were of another ethnicity altogether.\textsuperscript{14}

**The Early Era of Wokou Piracy- Tsushima Island and the Gihae Expedition**

Lying in the center of the Tsushima Strait, which lies between the southernmost and third largest island of Japan, Kyushu, and the Korean peninsula, Tsushima island was a hub for the Wokou pirates of the early era as well as the governed domain of the So clan of Japan. Seeing that the island was the origin of piracy, a Goryeo general by the name of Pak Wi successfully exterminated Tsushima island of Wokou pirates in 1389. In doing so, he destroyed 300 naval

\textsuperscript{10} About imitation wokou, Chungcheong-maeil 그러나 우리 측 사료인 ‘고려사’에는 단 3 건의 가왜(假倭)기록이 있을 뿐이다. 1223 년부터 1392 년까지 169 년간 총 529 회의 침입에 겨우 3 번의 ‘가왜’기록이 있을 뿐인데, 이를 보고 왜구의 주체를 고려인으로 볼은 어불성설이고 침소봉대를 해도 너무 지나치다고 볼 수 있다. ‘조선왕조실록’에도 왜구침구 기사가 무려 312 건이 나오는데 이 기사 어디에도 조선인이 왜구라는 말은 없다.
\textsuperscript{11} C.R. Boxer, “Piracy in the South China Sea”, History Today XXX, 12 (December), 40-44.
\textsuperscript{12} 村井章介『中世倭人伝』岩波新書、1993 年
\textsuperscript{14} Anthony Reid, "Violence at Sea", in Robert J Antony, ed., Elusive Pirates, Pervasive Smugglers (Hong Kong: Hong Kong University Press.), 18.
vessels and rescued more than 100 Korean hostages.\(^{15}\)

Still, the Joseon dynasty would order a reinforcement of Korean naval defenses as tactical insurance for the imminent risk of piracy. A Joseon official named Kim Sa-Hyeong, lead another expedition to the island in 1396. The Joseon dynasty requested that the Japanese officials of the Ashikaga Shogunate use their sovereignty and influence to bring about an end to the piracy that had its source in regions most closely associated with their domain. They asked this in hopes of facilitating the trade of real merchants.\(^{16}\) The two sides would agree on granting So Sadashige, the local governor, or daimyo, of Tsushima at the time, power over all vessels traveling to Korea from Japan.

When Sadashige passed away in 1418, Soda Saemontaro, a prominent pirate, seized power from Sadashige’s young son Sadamori. In 1419, amidst famine, Saemontaro and his pirates were pushed to invade Ming China. They stopped and requested food along the way in Bi-In and Haeju, both Joseon holdings. In both instances, Saemontaro and his men were denied and thus provoked into attacking. Joseon’s royal court received news of the attacks by Saemontaro and in response, initiated a general campaign against Tsushima.

Though the King of Joseon, Se Jong the Great, approached the situation as a whole with general laxness, his father, Tae Jong, who in 1418 had abdicated the throne, advocated a more proactive attitude in militarily extinguishing the Wokou. As an official military advisor to his son, Tae Jong officially declared war against Tsushima on the grounds that the island should exist under Joseon sovereignty. He would manifest his declaration in a campaign, which would come to be known as the Gihae Eastern Expedition.

And so, on June 9 of 1419, following Tae Jong’s declaration of war, Goryeo


launched an attack on pirate bases on the Japanese island of Tsushima. The invasion involved a fleet of 227 ships and 17,285 soldiers. It was lead by Korean General Yi Jongmu, who was born in 1360 and died in 1425.\textsuperscript{17} Waiting until June 19, when most of the Japanese fleet departed the island for Ming China on a campaign of their own, General Yi and his fleet departed from Geoje Island, an island off the southern coast of Korea, and headed toward Tsushima, where there was a Wokou stronghold.\textsuperscript{18} The navigators of the expedition were captive Japanese pirates. Upon arrival in Aso Bay, General Yi sent the hostage pirates to the Wokou stronghold as envoys to request surrender. Upon seeing there was no response, he ordered an attack, which ultimately annihilated the pirates and their settlements.

The success of General Yi’s campaign is best demonstrated by the numbers: a documented 1,939 houses and 129 boats were destroyed and 135 coastal residents were enslaved or killed.\textsuperscript{19} A notable 131 Korean and Chinese captives and 21 slaves were rescued from the island as well. Shortly after, the Japanese army attacked the Korean force at Nii. General Yi would lose 150 of his men at this Battle of Nukadake. Nevertheless, within the subsequent weeks, General Yi was able to negotiate a truce with the So clan, the ethnically Japanese ruling faction of Tsushima. Abiding by the terms of their agreement, on July 3, 1419, the Korean fleet disarmed and departed for Korea.\textsuperscript{20} Later, Joseon would grant Tsushima special trading privileges.\textsuperscript{21} In return, the Joseon government would expect Tsushima’s enforcement of stability and prevention of regional piracy. Following the success of General Yi’s raid on Tsushima, which is sometimes referred to as the Oei Invasion, the threat of Wokou piracy generally diminished in the region, at least until the 16\textsuperscript{th} century, when non-ethnic Japanese pirates would usher in a second era of piracy.

\textsuperscript{17} Louis-Frédéric Nussbaum, “Ōei no Gaikō” (2005): 735.
\textsuperscript{18} Stephen Turnbull, ‘Pirate of the Far East’: 811-1639
\textsuperscript{19} ”朝鮮世宗實錄 4 卷 1 年 6 月 20 日” Annals of King Sejong Vol.4 June 20.
\textsuperscript{20} ”朝鮮世宗實錄 4 卷 1 年 7 月 3 日” Annals of King Sejong Vol.4 July 3.
\textsuperscript{21} 月刊朝鮮 monthly.chosun.com
The Gihae Eastern Expedition and its triumph marks a historical crossroads in the subject of East Asian Wokou Piracy, where the Korean monarchy was able to effectively conquer the Wokou pirates by means of an all out offensive invasion, finding success even at the home bases of the pirates. The pirates were a lethal force, accustomed to raiding, pillaging, and looting. They would also have had an advantage in both numbers and strategic positioning, as they were fighting on their own turf. How, then, were General Yi and his attack force able to defeat the Wokou against such odds?

**Choi Mu Seon and Gunpowder**

About a century earlier, in 1308, the Goryeo Department of Arms Manufacture had closed down. This was due to the increased influence of civil officials. The result would see a general decline in Goryeo gunpowder technology and use. It was in this stagnant technological context that Choi grew up. Most importantly, he was able to acknowledge the technological vacuum in gunpowder use as well as the existence of an immediate application for the substrate in the form of Wokou threat.

Thus, he embarked for China in hopes of learning how to make gunpowder. Unfortunately, he met with no success due to China’s campaign of concealing gunpowder technology. Upon returning to Goryeo, he was determined to develop his own way of manufacturing gunpowder. In order to make gunpowder, three main ingredients are necessary: sulfur, willow charcoal powder, and *yeom cho*, which is Korean for a form of potassium nitrate or saltpeter. Where sulfur and willow charcoal powder are well-known, naturally occurring, and easy to come by, *yeom cho* must be made from other ingredients, which is very difficult. Indeed, the process of making *yeom cho* involves ratios of mixtures of compounds, all of which were unknown by Choi at the time.

Luckily, while at the trade harbor in Byuk Ran Do island of Goryeo, he met Lee-Won or Lee-Yuan, a wealthy Chinese merchant and engineer of *yeom cho*. Choi
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treated Lee-Won graciously, eventually resorted to bribes, and learned the process of yielding *yeom cho*. After numerous subsequent trials, Choi successfully made *yeom cho* on his own, an act involving the extraction of potassium nitrate from the earth. With a stable supply of *yeom cho*, Choi was able to complete the technique of producing gunpowder. Shortly thereafter, he created the peninsula’s first native rocket, the Ju Hwa.

Until Choi’s actions, the technique of producing gunpowder from scratch was monopolized and kept secret by the Chinese, specifically the Won, or Yuan. The Won also prohibited the exportation of gunpowder to Joseon, on the grounds of national security. It is with Choi’s success from 1374 to 1376 in independently making gunpowder in Goryeo that such technology was first demonstrated outside of China. And his endeavors would not end there.

He went on to incessantly lobby the Goryeo government to incorporate his research through the manifestation of a new department—the *Hwatong Dogam*. This government institute would fund further experimentation with and better development of gunpowder as well as firearms. Finally in October of 1377, Choi received approval from the government for his armory institution, essentially the successor to Goryeo’s Department of Arms, but revitalized and more dynamic—a Stark Industries of sorts. He thereafter moved forward with his research and experiments on gunpowder as an official representative of the government, further developing gunpowder on an institutional level. With new government backing, Choi would organize and install a new special military unit equipped solely with new firearms exclusively designed by him.

Until then, gunpowder was not used for firearms in Korea. Rather, it was seen as a material for strictly non-military purposes such as fireworks during the celebration of certain events. Gunpowder of Chinese origin had been in use in Korea

since the Silla period dating 57-935 AD. The Mongols brought cannons to Korea throughout their invasions from 1231 to 1259. However it would not be until Choi’s engineering efforts that the notion to start using gunpowder for firearms was first advocated and acknowledged on the peninsula. Thereafter, the Joseon would continue Choi’s legacy by developing an entire series of improved cannons, along with turtle ships created in the 16th century.

Choi’s early inventions with the *Hwatong Dogam* included the *singijeon* or *hwajeon*, Korean for magical machine arrow or fire arrow: *hwatong*, a fire barrel; *jilyeopo*, a mortar that fires shells: *daejanggun*, *samjanggun*, and *ijanggun*, a variety of cannons; *juhwa*, *chokcheonhwa*, and *yuhwa* rockets; and a *shinpo*, a signal gun. *Hwajeon*, the fire arrow, were in use by Joseon since the 1300s and alongside the *hwatong*, were very effective at combating Wokou pirates. *Hwatong*, and other early Joseon cannons of the late 14th century were very similar to their Chinese counterparts.

*Singijeon*, magical machine arrow, was the successor to the *hwajeon* and was used by means of the *hwacha*, a multiple rocket launcher. In addition to its use in defense against piracy, the Joseon would rely on *singijeon* in their campaign to expel the *orangkae*, Korean for barbarians, from along the northern borders. Most noticeable, however, was *singijeon*’s decisive role throughout the Imjin War. General Gwon Yul, a Joseon general of that war, would later exclaim his indebtedness to *singijeon* for successfully withstanding a Japanese faction of significantly greater number. In the book *Gukyo Orye Seorye*, the measurements and details of the *singijeon* are portrayed in the appendix.

These so called magical machine arrows were designed in three sizes and utilized black powder. The largest was a rocket spanning 52 cm in length. A fuse

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25 절대강국을 꿈꾸며 세종의 비밀병기 <신기전>
based handheld gun would fire the rocket a distance of up to 1.2 km. The medium was only 13 cm long and so could fire a distance of no more than 150 m, but otherwise was similar in design and build to the 52 cm and still managed to leave sand craters of up to 30 cm deep. The smallest type of *singijeon* was a single inexpensive arrow connected with a gunpowder case. *Hwacha* would fire hundreds of these arrows at a time and to a distance of up to 100 m. Structurally, *hwacha* involved a *singijeon* loading board atop a two-wheeled cart. Although the *hwacha* was not made until 1409 and thus was not directly produced by Choi, but rather by his son, Choi Hae-San, and another Joseon scientist, Yi Do, this multiple rocket launcher was undoubtedly the most immediate legacy of both Choi’s *singijeon* and *juhwa*. Overall, Choi would develop eighteen varieties of firearms, the first of which would see combat at the Battle of Jinpo.

In 1380, the first culmination of Choi’s developments as achievements and perhaps the precursor to the Gihae Expedition, was seen at the mouth of the Geum river in Goryeo. Using a variety of firearms, including *hwajeon*, developed by Choi, which were equipped on 500 warships utilizing Choi’s technology and newly developed naval artillery, King Wu, of Goryeo’s 6th year, achieved victory over Japanese intruders. Key victories such as this were owed largely to Choi’s endeavors in general, but especially to Choi’s development of fire arrows. The Japanese, including the Wokou pirates, would not use fire arrows, which they would come to call *Bo Hiya*, until the 16th century, marking the second era of Wokou piracy. *Bo Hiya* were grand arrows, consisting of a shaft encircled by a flammable string. They were first fired using *yumi*, Japanese for bows. Later, the Japanese would ignite *Bo Hiya* and launch them using a *Hiya Taihou*, a mortar based weapon, or a *tanegashima*, a matchlock firearm that the Portuguese demonstrated.

27 Transactions of the Asiatic Society of Japan, 1885, Original from the University of Michigan p.121
to the Japanese in 1543.\textsuperscript{30} These advanced Bo Hiya were larger and thick with fins, a metal tip, and a wood rod.\textsuperscript{31}

Still, such arrows would not be seen for two whole centuries, during which time the fire arrow would give the Joseon a critical advantage over the Wokou pirates and even the formal Japanese clans. In 1477, Choi was posthumously distinguished as an honorable head of the Office of Heavy Artillery and as a vice premier of Joseon, being remembered as the perfect role model for scientists and as a great patriot.

\textbf{A Precursor of Korea-Japan Diplomacy}

The earliest accounts of diplomacy between Korea and Japan manifest as a string of treaties between Joseon and Tsushima, occurring over the course of the 15\textsuperscript{th} century and into the 16\textsuperscript{th} century - the latent period before the second era of Wokou piracy began in the 17\textsuperscript{th} century.

Joseon’s military victory over Tsushima’s pirates in the Gihae Eastern Expedition, due in large part to Choi Mu-Seon’s gunpowder efforts, garnered new respect from local Japanese forces. The Japanese manifested their newfound respect for the Joseon by being overwhelmingly obliging to and abiding by Joseon’s requests and assertive terms. As is often the case in history, there are varying takes on how the period’s treaties were developed and on how they played out. Adding to the confusion, the series of events and exchanges are also laced with misrepresentation and poor communication. The two main viewpoints are, unsurprisingly, those of Japan and that of Korea. They do not necessarily contradict each other, but the distinctiveness of the accounts must be acknowledged. Despite the inconsistencies of the accounts, both cases involve parallel circumstances, revealing that Tsushima, under the authority of the So clan, developed a willingness to negotiate due to

Joseon’s military victories.

It is unanimously accepted that on September 29, in 1419, the So clan and the Joseon government agreed to a treaty where the So clan would be granted limited trading rights and permission to dock in three coastal ports. The Joseon, in return, would be reassured that the So clan would continue the hindering of piracy.

However, the Japanese believe that on July 15\textsuperscript{th} in 1419, the Joseon government wrote a letter to So Sadamori stating that the island of Tsushima rightfully be put under Joseon’s jurisdiction and ordering Sadamori into exile.\textsuperscript{32} In September of that year, a representative of Sadamori appears to have arrived in Joseon. However, his arguments were deemed unacceptable. King Tae Jong reissued the terms and in 1420, Sadamori’s representative finally accepted, giving Gyeongsang province of Joseon sovereignty over Tsushima.\textsuperscript{33}

In November of 1419, representatives of Ashikaga Yoshimochi, of the Ashikaga Shogunate, traveled to Joseon. Reciprocally, King Se Jong commanded Song Hui-Gyeong travel to Japan.\textsuperscript{34} During this journey, which embarked in 1420, Song met So Sadamori on Tsushima. Sadamori was known to reside in the Shoni clan of the Hizen province. Sadamori told Song that he had never agreed to the terms of Se Jong’s declaration of sovereignty over Tsushima and that he was misrepresented. Song would continue to Kyoto, and then Kyushu, before returning to Joseon. Thus, due to Song’s dialogue with the Japanese, the miscommunication between Joseon and Japan was cleared up. Learning from Song directly that the previous emissaries to Joseon were not rightly representative of the So, Joseon’s ambitions to rule Tsushima were set aside. While in Kyoto, Song had reassured the Shogunate that Joseon was not planning to invade Japan by any means. Still, Joseon would remain strict in dealing with Japan until Tae Jong’s death in May of

\textsuperscript{34} Kang, Diplomacy and Ideology in Japanese-Korean Relations, 275.
On July 6th in 1422, a So clan ambassador asked the Joseon to release Japanese prisoners of war. As a token of gratitude, he presented the Joseon with sulfur and copper. On December 20th of that same year, the Joseon government freed all Japanese prisoners of war. Tae Jong’s son, Se Jong, nullified his father’s assertions of sovereignty over Tsushima, and instead rewarded the So clan with special economic rights as long as they maintained stability.

The Korean contingent believed that in July of 1419, Sadamori received a letter from Tae Jo, which asserted Gyeongsang’s authority over Tsushima, as had been the case in the time of the Silla dynasty. Tae Jo also ordered that Tsushima pay tribute to Joseon. In September of 1419, Sadamori sent a representative to officially acknowledge allegiance to Joseon and to give the Joseon royal family various resources. Then in January of 1420, Japan asked for a copy of the Tripitaka Koreana, a sacred Buddhist text considered by Joseon as a national treasure. King Se Jong acquiesced, further strengthening the ties between the two parties.

Though the precise course of Joseon and Japan’s earliest diplomatic encounters has been interpreted in many ways, by the middle of the 15th century the treaties had become less disputable. In 1443, So Sadamori, the reigning governor of Tsushima, proclaimed and initiated what was known as the Gyehae treaty. Also known as the Kakitsu treaty, it determined the amount of merchant vessels that would travel to Korea from Tsushima, thus helping the So to expand their economic interest with Korea. Specifically, the governor of the So would have the privilege of trading with Joseon at a rate of up to fifty ships annually. In return, the daimyo would both send resources to Joseon and maintain the prevention of Joseon ports being victimized by Wokou piracy.

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35 朝鮮世宗實錄 7 卷閏 1月10日 "Annals of King Sejong 7 1st leap month 10
36 South Korea's current claims of sovereignty over Tsushima Islands is based on notes in the "Silla Bongi" [Silla section] (新羅本紀), in the Samguk Sagi [Chronicle of the Three Kingdoms] (三國史記, completed in Korea in 1145), and the Sejong Sillok [Annals of King Sejong] (世宗實錄, 1431).
All exchanges seemed amicable and mutually productive until 1510 when Japanese merchants began rioting due to the harsh trade protocol of the Joseon government, particularly those faced by Tsushima merchants attempting to trade in Ulsan, Jinhae, and Busan, of Joseon. Although the So clan initially backed the revolt, they were ultimately responsible for extinguishing it. As a result, King Jungong of Joseon declared a more limited agreement, known as the Treaty of Imsin. Under this treaty, the number of vessels allowed to travel from Tsushima to Joseon was restricted to 25 per year. This settlement would hold until 1544, when the Japanese again rioted, this time in Saryangjin. While the Joseon offered things such as hemp, rice, lacquerware, and Confucian texts, the So clan supplied tin, medicinal herbs, spices, sulfur, and copper.\textsuperscript{37}

Ultimately, Korea and Japan saw an unprecedented era of diplomatic relations along with the growth and maintenance of economic interaction between Joseon and the So clan of Tsushima. In addition to economic exchanges and benefits, an overall fraternal bond between Korea and the Tsushima locals was established and strengthened. Joseon sailors who would find themselves marooned on Tsushima would meet with local hospitality, and Tsushima natives would likewise receive exclusive benefits when in Joseon ports.\textsuperscript{38}

**Conclusion**

Choi’s development of gunpowder, coupled with successful Goryeo and Joseon application of this new technology, especially in battle with Wokou pirates around Tsushima Island during the Gihae Eastern Expedition, gained the attention and respect of the Japanese authorities. Consequently, a string of treaties throughout the 15\textsuperscript{th} and 16\textsuperscript{th} century between the Joseon and the So Clan were signed, providing what may be considered the earliest case of Korean-Japan formal diplomacy.

\textsuperscript{37} Korea, 1400–1600 A.D. | Timeline of Art History | The Metropolitan Museum of Art

\textsuperscript{38} 月刊朝鮮 monthly.chosun.com
The three narratives of Wokou Piracy, Choi Mu-Seon, and the Joseon-Tsushima treaties, when arranged thematically, depict logical interwoven points. What is initially an implication becomes inferential as the narratives are examined congruently rather than as relative.