Rice Asian Studies Review

Volume 8
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ABOUT RICE ASIAN STUDIES REVIEW

Rice Asian Studies Review (RASR) is a peer-reviewed journal featuring academic and creative pieces on Asian, Asian American, and Asian Diasporic Studies. It showcases work spanning a wide range of academic disciplines, geographic areas, and experiences by undergraduate students at Rice University. In particular, by reflecting the changing subject matters and methodologies of Asian Studies, RASR critically updates and expands on the parameters of Asian Studies as a scholarly discipline through the publication of rigorously selected high-quality work. RASR aspires to provide an outlet for outstanding research, inviting students of all backgrounds and specializations to participate in our endeavors to critically engage with Transnational Asia.

From left to right: Matt Banschbach, Kelly Guo, Elizabeth Workman, Karina Pan, Matthew Ahn, Catherine Cheng, Carmine Steiner, Ava Baraban, Alisha Hou, Maya Habraken, Emma Codianne, Joanna Stewart, Bryson Jun, Emily Nguyen, Eric Li, Lily Remington
Photo taken by Kirstie Qian

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We are profoundly indebted to Hae Hun Matos, the Department Administrator, and Dr. Sonia Ryang, our faculty advisor. Ms. Matos and Dr. Ryang have continuously supported RASR and helped us maintain its standards for academic publishing. Without their tireless advice and encouragement throughout this entire process, from recruiting our team of editors to delivering the final copy to authors, RASR would not have been possible.

We would also like to express our deepest gratitude to Dr. Lisa Balabanlilar, Dr. Nathan Citino, Dr. Cassandra Diep, Dr. Farshid Emami, Dr. Steve Lewis, Dr. Sidney Lu, and Dr. Sonia Ryang for serving as faculty reviewers for RASR this year. They generously took the time to provide valuable insights and suggestions for the editorial board and authors, helping to ensure the journal's high academic caliber. We are extremely grateful for the opportunity to learn from the immense body of expertise on Rice's campus.

Finally, RASR would like to thank our contributing authors and artists. We are lucky to be able to publish articles and creative pieces concerning a wide range of academic disciplines, geographic areas, and experiences. This would not have been possible without the diverse talents and interests of the undergraduate students at Rice University.

As we hope the research and artistry contained in these pages will inspire both new ideas and new scholars, we also thank you, the reader, for reading our journal.

LETTER FROM THE EDITORS

The eighth edition of the RASR takes the reader on a journey through many corners of Asian Studies. The diverse selection of original academic research, artwork, photography, poetry, and prose reflects the diversity of the scholars and artists whose work passionately engages with Asia. The arrangement of the works reflects a conscious effort to highlight common thematic elements, like aspiration, immigrant experiences, and the constructed purposes of public goods. We therefore invite the reader to not only engage with pieces individually, but the entire issue as a cohesive narrative within Transnational Asia. In continuity with our desire to elevate transnationality, this issue's cover showcases imagery of a bird's wings. Capable of flight despite the pulls of gravity, birds are often symbols of liberation and freedom. Just as birds are unconstrained by human-imposed borders, we strive to highlight work with global implications that challenges the status quo.

The issue's academic works demonstrate many passions of Rice's Asian Studies scholars. In "Bushido," Ryan Ellis explores how Bushido functioned to reframe perceptions of the Sengoku Period during the 19th century. Daanesh Jamal elucidates the role of art in expanding the legitimacy of Shah Tahmasp's rule in "Performing Kingship in the Safavid Style." In "More Public Interaction and More Government Worry," Elena Alvarado explores two visitors and their experiences of public gardens and coffeehouses during Ottoman rule, highlighting their roles as socioeconomic and cultural mixing pots. Mohammad Khuroo surveys barriers to accessing quality emergency healthcare in "Challenges in Emergency Medical Care for Asian Immigrant and Refugee Patients." Lastly, Emma Codianne's original ethnographic work in "The STEM Gender Gap in Japan" contributes to the understudied but prevalent question of STEM disparities in Japan. We also feature creative works from Abigail Chiu, Nhu Chu, Ashley Deng, Lily Harvey, Lily Remington, Jason Yang, and Alina Zhong, and leave their interpretations to the viewer.

Ultimately, we hope this year's volume of RASR reflects the variety of perspectives and experiences of individuals across Transnational Asia, as well as the students and scholars who study them. In a time when engagement with diverse cohorts is crucial to the advancement of knowledge, it is with this sentiment that we present the eighth volume of our journal.

Matt Banschbach & Lily Remington, Editors-in-Chief

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Bushido: Reshaping the Sengoku Jidai

Ryan Ellis

ABSTRACT

This paper examines how the rising Bushido movement during the 19th and 20th centuries reshaped public perception of the Sengoku period of Japanese history. In the late 1800s, Japan was experiencing a massive societal change, moving from a fragmented set of provinces to a nation-state under the rule of the Emperor. During this transformation, Japanese officials increasingly looked for a way to bring unity under the new nation of Japan and found Bushido – "the way of the samurai" – as a key catalyst for nationalism. Bushido was at its core based upon emphasizing and romanticizing stories from the Sengoku period, causing the portrayal of the Sengoku period to be largely centered around supporting Bushido culture rather than existing as an independent historical entity. By looking into the memorials constructed, woodblock print created, the historical nonfiction books written, and other mediums through which the Sengoku period was represented, we can analyze how the Sengoku period was reshaped and sensationalized through the process of solidifying Bushido culture.

As the sun rose on January 3rd, 1868, Japan entered a new era. It transitioned from a loosely connected island chain consisting of hundreds of daimyos, local warlords ruling over provinces, to a new form of government in the nation-state of Japan. With this change, many new questions emerged. What did it really mean to be "Japanese"? How could millions of people speaking various dialects from distinct cultures come together under a unified state? One way in which these questions were answered was by creating something that people from all over the Japan island chain could rally behind, which was believed to be an innate part of all those born in Japan: Bushido. Following the Meiji restoration, Japanese elites created a new notion of "Bushido," or the way of the warrior, by painting a new picture of the Sengoku Jidai (15th to 16th century Japan) to create a unifying identity for the Japanese people. From being used to explain Japanese financial success or justifying extra grit and determination in war, Bushido took root in all aspects of society.

Defining Bushido

To analyze how Bushido reshaped the public's view of the Sengoku Period, we must first settle on a definition of Bushido. Being the allusive term that it is, interpretations of what Bushido meant to the Japanese people has changed countless times throughout history. As such, we must define it specifically in the context of the 19th century. During the late 1800s, many Japanese scholars looked to England for both industrial and social guidance, where one of the main societal elements that stood out was the role of the "gentleman" in society. Many "gentlemanly" mannerisms had developed out of medieval European chivalry, and many people in Japan made comparisons to their own feudal past, establishing "Bushido," which translates to "warrior way." Japanese scholars looked back upon Bushido as a means by which the Japanese people could establish their own social position of the "gentleman," with their own set of ethics and lifestyle.[1] Scholars such as Fukuzawa Yukichi asserted that the samurai way that the Japanese

people needed to reignite was that of military strength. Bushido, being based on an inherently militant social class, the samurai, necessitated a show of force that would show Japanese power.[2] In a slightly different perspective, Ozaki Yukio—another 19th-century scholar—believed that the warrior code had a larger role in guiding the average Japanese businessman in world trade by establishing credibility in Japanese businesses and incentivizing foreign investment.[3] Although many scholars had differences in their own definitions of Bushido, all of them had a few common characteristics.

The first characteristic that we find in all of these modern interpretations of Bushido is an emphasis on honor and loyalty. As modern scholar Benesch explains in *Inventing the Way of the Samurai*, honor to one's master, family, clan, etc, is paramount to living a fulfilling life. In Fukuzawa's view, this might mean loyalty to the emperor or a general.[4] To Ozaki, this might mean staying loyal to business partners and following up on promised achievements. Stories from the Sengoku period were highlighted to show an emphasis on loyalty, and were increasingly used as a way to keep a loyal civilian base and military.

A second core element of Bushido that can be seen in interpretations of Bushido is the notion of "gentlemanliness." As alluded to before, the Japanese public sought their own version of the English "gentleman" and settled on a civility that would arise from following the ways of their samurai ancestors.

A third element is an emphasis on grit, determination, and continuing to fight until the end for one's own self of honor. Personal sacrifice is highlighted as a key element of Bushido, where it is expected for a Japanese citizen to never give up even when facing insurmountable odds. This had significant military and economic implications, where scholars like Fukuzawa thought that this meant never surrendering to enemies in war.

Aside from its definition, we also need to look into the origins of the term itself. The term Bushido consists of "bushi," meaning samurai, and "do," broadly speaking, meaning "way" or "path." The first use of the term can be traced back to the Koyo Gunkan, a book describing the lifestyle and history of the Takeda clan from central Japan during the Sengoku period. Written during the relatively peaceful Tokugawa period, it looked back on the Sengoku period (1450s - 1600) and analyzed what contributed to their successes or failures. It refers to some of the most well-known characters of the time, such as Takeda Katsuyori, Imagawa Ujizane, etc, and uses each one as an example to define what it determines as the four types of ineffectual rulers: The foolish general, the cowardly general, the overly clever general, and the excessively strong general.[5] In essence, the book served as a guide to becoming a successful leader within Japan. Aside from the occasional use here or there, after the Sengoku period, Bushido was largely forgotten and scarcely used until 19th-century scholars reread books such as the Koyo Gunkan and picked it back up. Instead, they sought to apply the same principles in the book to their modern world. This revival brought with it a reverence for this type of old guidebook, such as the coveted Hagakure, which also served as a foundation for the rise of Bushido, with more recent authors even writing that it was the "womb from which [their] writing is born…the eternal source of [their] vitality."[6]

Memorialization as a Means of Establishing Bushido

One of the clearest examples of how the rise of Bushido reshaped our view of the Sen-

goku period can be seen in the massive rise in preservation societies, museums, and statues honoring the period erected in 20th century Japan. Some of the most prevalent figures of the Songoku period, Oda Nobunaga, Takeda Shingen, Date Masamune, and Toyotomi Hideyoshi, all had statues commemorating them constructed after the Meiji restoration.[7] These statues were used to commend military generals of the past for their strategic prowess and exhibit Japanese strength. When foreigners or colonial subjects were given tours of Japan, these statues were always shown, again to emphasize Japanese strength.[8] For example, in 1912, a group of Paiwan peoples were given a sightseeing tour of Japan and were shown many architectural wonders, one of which was the statue of Toyotomi Hideyoshi. By highlighting and often exaggerating these historical figures' masculinity and "manliness," they clearly had the purpose of spreading the core Bushido characteristic defined earlier of what it means to be "gentlemanly." With their broad shoulders and elegant armor, they exemplified what it meant to be a man of honor who was ready to fight for his people. Prior to this wave of statue construction in the late 1800s, statues had never been erected publicly to celebrate war heroes, with statues simply not being a big part of their culture.[9] These statues presented a hyper-masculine portrayal of the Sengoku period that hoped to inspire strength rather than portray accuracy. To this day, however, many of these statues serve as key tourist attractions, further spreading the notion of the stoic samurai being a deeply entrenched aspect of Japanese culture.[10]

In addition to the mass "statumania" that spread across Japan, there were also countless memorials and tombs erected to samurai who had fallen during the Sengoku period to, again, further propagate the ideals of Bushido.[11] One example is the memorial for Ohtani Yoshitsugu, erected in 1940 at the famed battlefield of Sekigahara. Ohtani Yoshitsugu was a general who fought alongside Ishida Mitsunari during the final battles of the Sengoku period, and is now best known for his "Bushido" actions. During the battle, Yoshitsugu chose—despite his personal beliefs—to fight alongside Mitsunari's army since his old master Toyotomi Hideyoshi had supported Mitsunari, and he wanted to respect his old commander. Yoshitsugu went on to make a heroic last stand by taking on an oncoming cavalry charge before being defeated. To commemorate his story, the memorial in 1940 reads that "Otani Yoshitsugu tried to dissuade Ishida Mitsunari from raising an army, but his words were not heard, so he made up his mind to join the Western Army and fight bravely, but was outnumbered and committed suicide" and that his actions "[were] a samurai act of repaying the kindness of his lord, Toyotomi Hideyoshi, and of sacrificing himself for the honor of serving Hideyoshi alongside Mitsunari, a true example of Bushido."[12] Here, Bushido is explicitly mentioned on the plaque, alongside the core elements of staying loyal to his master, fighting to the end despite the eminent defeat, and committing *seppuku*, which was a ritualistic behavior of committing suicide rather than surrendering. This is the pinnacle of Bushido, with many of its key aspects being represented to their extremes. A hero who fought against all odds, stayed true to his values even though he disagreed, and took his own life rather than being captured: all of it represents an almost perfect story at representing Bushido. By repeatedly highlighting stories such as these, it portrays a sensationalized view of the past that was used more so for its militaristic sentiment rather than

Figure 1: Otani Yoshitsugu's memorial plaque in Sekigahara Japan[13]

historical accuracy. Memorials such as these showed that through reverence of Bushido, the public's perception of the Sengoku period was influenced.

Another way that the rise of Bushido morphed views of the Sengoku period was in mass-produced textbooks and educational materials. The education department began to approve textbooks that contained stories from the Sengoku period that supported Bushido ideals; one such story was of Torri Suneemon at the Battle of Nagashino. This was another pivotal 16th-century battle where defenders held out for around two weeks against a much stronger enemy, and one brave soldier sacrificed himself to allow for reinforcements to arrive in time.[14] Although the authenticity of this story is debated by scholars, it has been widely spread among the Japanese public and has become a story that inspires loyalty to soldiers and citizens alike. The main way the story was made known to the public was by being included as a part of the mainstream education system. In the book "Ordinary Elementary School Reader, Volume 12" (for sixth graders) published in 1913 and in "Advanced Elementary School Reader 3" published in 1903, the story is featured and is used as an example of how one should act honorably.[15] Beyond the publications of textbooks, in 1919, his gravesite was expanded, and in 1923, the nearby railway station was named after him, being called Torii station.[16] Finally, a 1942 film was created to commemorate his story. The film, the textbook, and the wider commemoration of Torii Suneemon ensured that all Japanese students would grow up knowing stories that heightened Japanese militarism and pride.

Torii Suneemon's story was not the only one that began to be printed in textbooks, with similar sacrificial Sengoku stories appearing in other educational books. One story in-

volved Torii Mototada, another samurai who sacrificed himself to hold the enemy back and help his allies achieve victory. Just before the crucial battle of Sekigahara, Torii Mototada famously chose not to surrender when besieged in Fushimi castle and held out against insurmountable odds for almost two weeks to allow his allies enough time to regroup their forces. His legacy is most clearly remembered in his letter to his son shortly before his death, where he wrote that it would "not take much trouble to break through a part of their numbers and escape," but "that is not the true meaning of being a warrior, "and that he would rather "standoff the forces of the entire country here, and, without even one one-hundredth of the men necessary to do so, will throw up a defense and die a resplendent death."[17] Again, the authenticity of this letter is sometimes put into question, but either way it was spread throughout Japan as an example of what a "model" soldier should be, with Mototoada's loyalty representing what it means to be Japanese and follow the Bushido code.

The next form of memorialization of Sengoku figures I would like to discuss is their mass deification in the form of being dedicated to different shrines and temples. During the late 19th and 20th centuries, historical figures from the Sengoku period were dedicated in mass to shrines as proto-deities. The government did this by officially tying historical figures to places of religious significance where average Japanese citizens would practice daily prayer. In 1870, for example, Oda Nobunaga was enshrined in the Kenkun shrine to be worshipped and respected for his unification of Japan. Each year since its dedication, a festival has also been held at the shrine to honor the day that Oda Nobunaga entered the capital of Kyoto.[18] In 1885, the Toyokuni Shrine was erected to enshrine Toyotomi Hideyoshi, alongside a museum built in 1910 to commemorate his achievements.[19] By connecting these places of spiritual worship to generals during the Sengoku period and having festivals in place to celebrate their achievements, the Japanese government was able to root elements of Bushido into the daily lives of citizens and promote a society that was firmly militaristic. It also established a system of reverence that would endure as long as the shrines continued to be maintained, ensuring that the tales of the samurai would never be forgotten.

Bushido in Art and Literature

Moving away from the intense memorialization, statues, and enshrinement of these historical figures, another way in which the Sengoku period made its way into the creation of Bushido culture was through literature. The clearest genre of literature that captured this spirit was the *Jidai Shosetsu*, or the historical fiction books written during the early to mid 20th-century. Although there were many Jidai Shosetsu authors, arguably the most influential—and the one I will be focusing on—was Eiji Yoshikawa. Eiji Yoshikawa's tale *Musashi* was his masterpiece. It followed the life of Miyamoto Musashi, a 16th and 17th-century masterless samurai who was famous for winning 62 straight duels. Aside from being an engaging book that captivated the hearts of many, the novel exemplifies many of the core elements of Bushido. To begin with, the first characteristic of Bushido that the book clearly emphasizes is an adherence to honor and tradition. The duels that Yoshikawa describes have complex etiquette that is said to have been passed down through many generations. From maintaining eye contact when bowing, to only giving a simple 15-degree bow, these duels were seen as an orderly, almost ritualistic activity.[20]

Most of all, it had an emphasis on maintaining honor, where it was important to be gracious in both defeat and victory. By portraying the Sengoku period in this highly organized and ritualistic way, Yoshikawa spread the idea to the Japanese populace that honor and respect are key tenets of Japanese militarism and what it means to adhere to Bushido.

Another repeated motif throughout these books is a dampening of the significance of death. Towards the end of Yoshikawa's book, for instance, Musashi is depicted staring off into the sea as he prepares for his final duel, oddly calm at the prospect of death. Yoshikawa writes " 'Does not true life begin only when tangible form has been lost?' To Musashi's eyes, life and death seemed like so much froth."[21] Throughout the book, there are many similar lines where death is tossed around as just an accepted part of day to day life. Another common way that they did this was through an emphasis on *seppuku*, a form of ritualistic suicide. *Seppuku* had been a well-established tradition in Japan, where rather than letting themselves get captured by the enemy, soldiers would commit suicide by slicing their stomachs open. In historical fiction novels, authors would depict heroes or villains as committing *seppuku* in order to maintain their dignity. In Naoki Sanjugo's novel *The Bloody History of Yui Kongen*, he uses extremely grotesque imagery to depict a samurai committing *seppuku*. Beyond the already horrific depiction of his suicide, the character forces his son to watch as he slices open his stomach to force him to become "stronger" and more of a "man", with his final words to the boy being "Are you watching, boy? This is … how a … a samurai… Did you see?" further emphasizing the portrayed manliness of committing suicide.[22] Books such as these normalized and even advocated for desensitizing younger generations to gore and violence, further contributing to a more militant society. Another interesting trope within the culture of *seppuku* is writing "death poems" before committing suicide. These poems became well-studied and admired works that showed the spirit of Bushido to its fullest extent. For example, Shimizu Muneharu's poem in 1582 was spread by scholars to exemplify the proper spirit in facing death. He wrote, "The best time to die is when the whole world is against you. Fall at that moment and you will blossom like a flower."[23] Others wrote similar poems that dismissed the significance of death, with the famed Uesugi Kenshin writing that "Forty-nine years of sleep and dreams. A long and fruitful life? It was nothing but a cup of sake."[24] Many of these poems either dismiss death as something not to be feared or emphasize the honor that death can bring. All of this emphasis on death and honor through *seppuku* had extremely profound impacts on the psyche of the Japanese populace, which can most clearly be seen in soldiers' accounts in war. During World War II, Japanese pilots who went on suicide missions would write final messages similar to death poems of the Sengoku period. In these poems, pilots describe Japan as being "like a phoenix rising out of the ashes" and that "Even if Japan gets defeated once or twice, as long as the Japanese survive, Japan will not be destroyed."[25] This rationale was used to justify their suicidal missions through honor in death. Another horrifying example is the mass suicide of Japanese soldiers who faced certain defeat towards the end of the war. In the diary of the soldier Tatsuguchi, he describes the practice of using grenades to kill all of the injured soldiers within his regiment in order to prevent them the humility of being captured by the en-

emy.[26] The idea of what a samurai represented shifted away from being just a swordsman, to a glorified hero facing death. Of all of the traits of Bushido culture, this one had some of the most horrific implications.

Tying into the dismissive attitude towards death, another factor that amplified this was a core element of this genre: swordsmanship. Throughout many of these historical fiction texts duels or battles were depicted as almost an art form, where the scenes were portrayed to show beauty rather than horror. Musashi's movements during duels are described in a graceful and controlled way that alludes to that of a choreographed dance routine or an aestheticized painting.[27] Swordsmanship as an art form became a common element of Japanese thought during the 19th and 20th centuries, where some Zen scholars increasingly saw it more so as art than violence.[28] Famous Zen author Daisetz Suzuki takes this to the extreme when he wrote that "for it is really not he [the swordsman] but the sword itself that does the killing. He had no desire to do harm to anybody, but the enemy appears and makes himself a victim."[29] Although this line of reasoning may seem frankly absurd to outside observers, thoughts such as these became common justification for many of the terrible atrocities committed by Japanese soldiers, and contributed to the hyper-militant ideals that set the foundations for fascism.[30]

Besides the artistic representation of swordsmanship, these historical fiction books also misrepresented the Sengoku Period with their emphasis on the worship of the emperor, when historically, samurai had much less reverence for the emperor during the 16th and 17th centuries than what's depicted. Musashi is shown in various scenes as worshipping the emperor or calling to the emperor to bring him success.[31] This follows a general trend after

Figure 2: Torii Suneemon depicted yelling out to the defenders of the castle while being taken away by Takeda forces.[32]

the Meiji restoration, where the emperor was placed into the center of society and found his way into almost all forms of media. This may have been one factor that led the Japanese government to endorse the book during the Second World War when many other books were censored from the public. Even more intriguing is that after the end of the Second World War, many of these scenes that involved emperor worship were removed from the text, showing how these historical fiction stories may reflect more about the period they were written than the period they depict.

On a much more light-hearted note, another medium of expression that the Sengoku period was represented in was woodblock print and other forms of visual art. Beginning in the 19th century, there was an explosion of woodblock print pieces representing various military figures from the Sengoku period. One such artist was Toyohara Chikanobu. Toyohara Chikanobu's works often portray either Edo or Sengoku Japan, with many of them including heroic stories or tales in image form. For example, Torii Suneemon, the heroic tale mentioned previously, is featured in one of his works pictured below.

The samurai is depicted as desperately yelling to the defenders of the castle while being dragged off to be executed by the Takeda forces. Other works of his focus on heroic tales of samurai escaping pursuers or fighting off large hordes of enemies. For example, one of his prints depicts Oda Nobunaga jumping into the flames of Honno Ji temple as he attempts to flee a pursuing assassin.

Although historical accounts often tell the story that Oda Nobunaga committed *seppuku* before being engulfed in flames, this work shows how these ancient stories were given a new shape to inspire audiences. Other works amplify other elements of Bushido without depicting violence. In a different piece, Chikanobu portrays a time of order and social stability by showing several peasants carrying a local warlord on their shoulders while a family is seen in the background, with a traditionally clothed samurai serving as the "gentleman" of the family.

In a time of dramatic social change with the abolition of the societal role of the samurai, many may have looked back nostalgically to the past for a time when things were more rigid. Other works emphasize a plethora of practices seen as a part of the rising "Japanesey" culture, with tea ceremonies, martial arts competitions, and much more, all being commonplace within these prints. Although woodblock print culture began much earlier than the Meiji restoration, there was a focus within these prints around the turn of the 20th century to capture the "true essence" of what it meant to be Japanese, which often culminated in the nostalgic depiction of the distant samurai past.

Larger Implications

As we have seen, Bushido permeated all aspects of Japanese life. Entertainment in the form of historical fiction novels told tales of heroic samurai fighting to the end against insurmountable odds. Art in the form of woodblock print brought many characters from the Sengoku period to life in vividly depicted action scenes highlighting their military achievements, while also glorifying the social stability of the past. Statues and memorials ensured that the public knew about all of these historical figures, sparking militaristic ideals within the hearts and minds of Japanese citizens. The government itself published tales within textbooks to foster Bushido. Within all of these, the Sengoku period was a tool that was used,

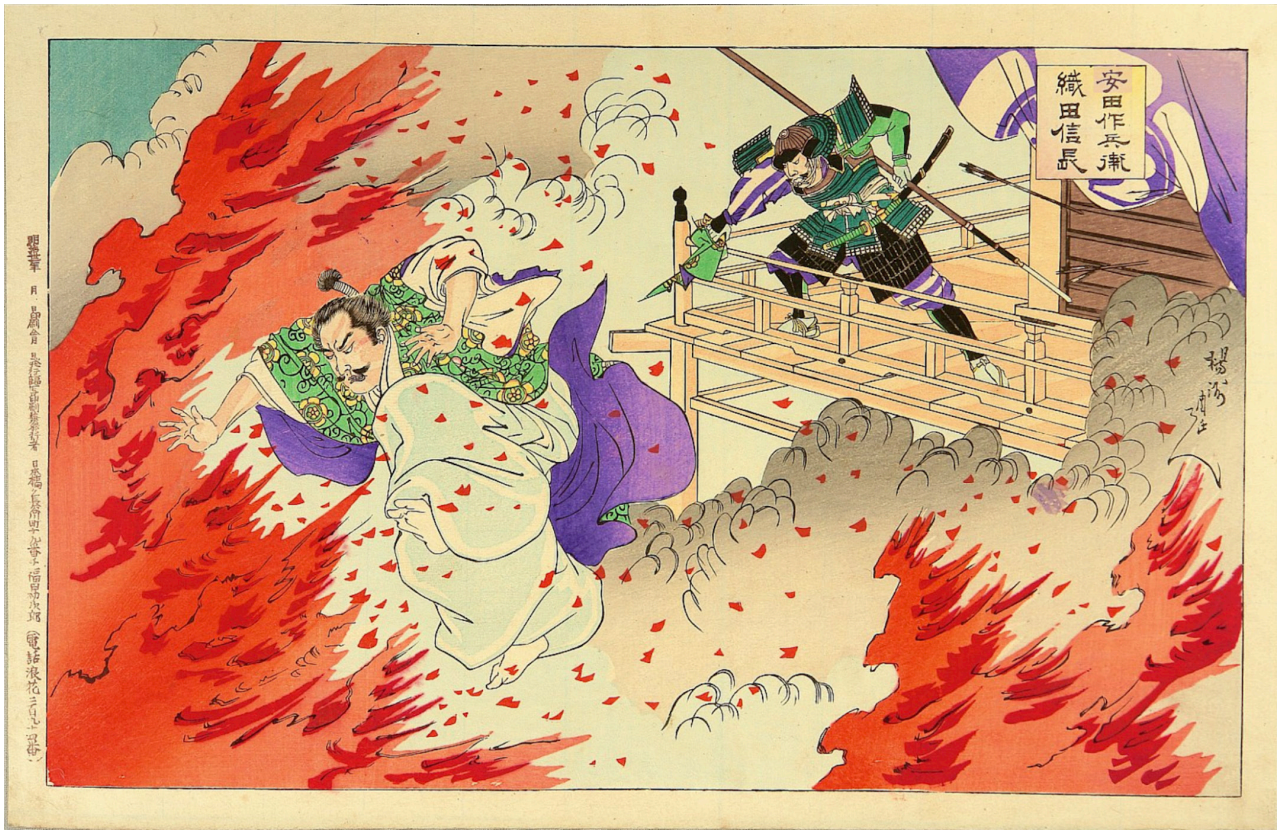

Figure 3: Oda Nobunaga depicted fleeing pursuer at Honno-ji temple through the flames.[33]

Figure 4: Woodblock print of samurai or peasants carrying lord while a family watches in the background.[34]

and in the process, was bent in order to fit government ambitions. The Bushido movement truly was able to sink its roots deep within society, and within a world that was rapidly changing, it's easy to see why it had so much success and prevalence. Japan was an Asian power increasingly adopting Western ideals that wanted to carve out its own identity. It wanted to separate itself from the allegations of just another one of the "Western powers" following imperialism, while also separating itself from other Asian countries. When looking at Bushido, it accomplishes exactly this: it gives a reason for their success—the samurai spirit—that differentiates them from other Asian powers, while also giving the people something that is uniquely Japanese. Although the spirit of Bushido dampened following Japan's defeat in the Second World War, its effects have been long-lasting. In our world today, there are clear remnants of Bushido within Japanese and global culture. Shows such as "Shogun" and "The Blue Eyed Samurai" extend this portrayal of the heroic samurai, solidifying it for years to come. Many forget that during the 20th century, some of the leading Zen thinkers were the same ones who used Zen to justify the killing of civilians. Many forget that the same shrines that they pray to are dedicated to ruthless warriors who burnt down monasteries and temples to consolidate power rather than warriors who were honorable in battle or followed strict codes. Many forget that historical fiction novels are just that: fiction. In the modern day, there has been a resurgence of Bushido culture in the context of rising militarism and the narrative of Japanese strength. For example, as seen in the documentary "Shusenjo", recent prime minister Abe visited the Yasukuni shrine, one that is dedicated to the fallen soldiers of Japan, many of whom were classified as war criminals.[35] Although this form of militarism may not be the same Bushido of the past, the creation of Bushido following the Meiji restoration will have a long-lasting effect and may serve as a building block for future nationalist movements. As Japanese culture continues to change, we need to be conscious of Bushido's influence to prevent some of the same shortcomings of the past, while also maintaining a national identity that Japanese citizens can be proud of.

Notes

1. Oleg Benesch, *Inventing the Way of the Samurai*, (Oxford University Press, 2014), 52, ("Ozaki sought the roots of English gentlemanship in the feudal tradition and medieval knighthood, although the ethic had evolved since. This connection was important to Ozaki, for it provided the basis of his developing bushidō theory").

2. Benesch, *Inventing the Way of the Samurai*, 57, ("Fukuzawa believed that these patriotic feelings manifested themselves in the ethic of yasegaman, which William Steele translates as ' ghting to the bitter end'.").

3. Benesch, *Inventing the Way of the Samurai*, 53, ("Japanese merchants could only succeed in business and trade if they were as trusted as English merchants, and this had to be achieved by being strictly faithful, honouring agreements, and avoiding coarse and vulgar speech, all of which were tenets of Ozaki's bushidō.").

4. Benesch, *Inventing the Way of the Samurai*, 29, ("Bu is striving to eliminate things that obstruct lial piety, brotherliness, loyalty, and trustworthiness'").

5. Bennett Alexander, *Bushido and the Art of Living*, (Chiyoda-ku, Tokyo: Japan Publishing Industry Foundation for Culture, 2017), 60.

6. Alexander, *Bushido and the Art of Living*, Introduction, 21.

7. See the Toyotomi Hideyoshi statue in Osaka, Date Masamune statue in Sendai (1933), Takeda Shingen Statue in Kofu city center, etc.

8. Kirsten L. Ziomek, *Lost histories: Recovering the lives of Japan's Colonial Peoples*, (Cambridge, MA: Harvard University Asia Center, 2019), 132, ("[The Paiwan] were taken on a sightseeing tour around Osaka, and saw the bronze statue of Toyotomi Hideyoshi and Himeji Castle.").

9. Takashi Fujitani, *Splendid Monarchy*, (University of California Press, 2023), 17, ("Before that time there had been no tradition of public statuary celebrating national heroes.").

10. Not only were Sengoku statues built, but many other historical figures also had new statues. For example, there was a revival in the reverence for the Kenmu restoration. The Kenmu restoration was a period from 1333 to 1336 that the Emperor Go-Daigo retook control over Japan from the shogunate. It makes sense that the new Meiji government would spend more time to revere emperor Go-Daigo since they too took control away from the shogunate to support the Emperor.

11. Fujitani, *Splendid Monarchy*, 17, ("On a rather unpretentious level, the people witnessed a veritable wave of "statumania," beginning in 1893").

12. Ryan Ellis, personal photo of the memorial and its plaque, titled "otani yoshitsugu ken shou hi", 大谷吉継顕彰碑, July 7th, 2024.

13. Ryan Ellis, personal photo of the memorial and its plaque, titled "otani yoshitsugu ken shou hi", 大谷吉継顕彰碑.

14. Akira Nishiba, *"kuwana shi, " torī sunēmon",* 桑名市, *"*鳥居強右衛門*"*, 2022.

15. Ministry of Education, "Advanced Elementary School Reader 3," 高等小学読本 三, 1903.

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20. Alexander, *Bushido and the Art of Living*, 43.

21. Ben Van Overmeire, "Inventing the Zen Buddhist Samurai," *The Journal of Popular Culture* 49, no. 5 (2016): 1125–45.

22. Andrew Rankin, *Seppuku*, (Tokyo; New York: Kodansha International, 2011), 234.

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24. Rankin, *Seppuku*, 228.

25. Aaron William Moore, *Writing War*, (Harvard University Press, 2013), 215.

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27. Van Overmeire, "Inventing the Zen Buddhist Samurai."

28. Van Overmeire, "Inventing the Zen Buddhist Samurai," ("Art" here needs to be understood broadly: tea ceremony, archery, and rock gardens were all incorporated in an essentializing discourse on Japanese esthetics.7 No wonder then, that swordsmanship was also deemed a Zen art.").

29. Daisetz Teitaro Suzuki, *Zen and Japanese Culture*, (New York: Pantheon Books, 1959), 145.

30. Van Overmeire, "Inventing the Zen Buddhist Samurai."

31. Van Overmeire., "Inventing the Zen Buddhist Samurai," ("Yoshikawa deleted scenes where the main character worships the emperor in order to adapt the book to the mentality of postwar Japan").

32. Toyohara Chikanobu, "*Torii Suneemon*", 1893.

33. Toyohara Chikanobu, *"Through Fire,"* Meiji 1868-1912.

34. Toyohara Chikanobu, "*Ōkubo Hikozaemon carried to the Shogun's Castle,*" Meiji 1868-1912.

35. Miki Dezaki, *Shusenjo: The Main Battleground of Comfort Women Issue*, (No Man Productions LLC, Amerika Serikat, 2018).

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Matsumoto Castle Winter Illumination

Jason Yang

Performing Kingship in the Safavid Style: Tahmasp's Illustrated Shahnama and the Synthesis of Islamic & Persianate Themes in Central Asian Art

Daanesh Jamal

ABSTRACT

This article aims to contextualize the meaning of Shah Tahmasp's illustrated *Shahnama*, drawing upon two additional primary sources (Tahmasp's *Memoirs* and his *Letter to Selim II*) which have been neglected in the English-language scholarship. Viewing the illustrated *Shahnama* in light of Tahmasp's own writings, his background, and the artistic milieu reveals Tahmasp's attempt to curtail the power of the Qizilbash who marginalized him during his early rule. Illustrations within the *Shahnama* represent a stylistic pivot away from the wild, irrational spirituality favored by the Qizilbash and towards the sober, rationalized Twelver Shi'a piety Tahmasp increasingly favored. Additionally, Tahmasp's illustrated *Shahnama* fused Persian and Shi'a imagery on light and gardens to bolster his standing amongst elites within and without his kingdom. Tahmasp's illustrations blur Islamic and Iranian visual motifs of light as an indicator rightful kingship, and then combine them with distinctly Safavid imagery to signify Tahmasp and his dynasty to be the proper inheritors of both Persianate and Shi'a authority. Iranian and Islamic fondness for verdure as another sign of righteous kings was similarly blended with references to Tahmasp's own gardens to again signal to other elites the Safavid claim to the charisma of Persianate and Muslim leaders.

Introduction

The reign of Shah Tahmasp (r. 1524-1576) represented a crucial transition period in the history of the Safavid Dynasty (1501-1722) and Iran at large, implanting its sober Shi'a legalism, consolidating its territorial boundaries (which more or less corresponds to the borders of modern-day Iran), and solidifying confessional identities in opposition to their Sunni Ottoman rivals in the West. Yet the Safavids were not only a Persianate revival: Turkic art styles significantly mediated their fusion of Iranian imperial and Islamic Shi'a motifs on legitimate kingship, which they then deployed to justify and promote their dynasty. Tahmasp's illustrated *Shahnama* (Book of Kings) and its ancillary texts, namely Tahmasp's *Memoirs* and his *Letter* to the Ottoman sultan Selim II (r. 1566–74), provide windows into the formation of this new hybrid ideology-cum-imagery, in addition to reflecting the artistic traditions and political chaos of his time. Specifically, Tahmasp's *Shahnama* reconfigured imagery of the supernatural to undermine the Qizilbash[1] and drew upon Islamic and Iranian imagery of light and gardens to augment his own authority. However, the nuances of the primary sources demand an approach sensitive to their original context and intent.

The *Shahnama* of Tahmasp and its written complements—the *Memoirs* and *Letter*—can be productively analyzed from within the "Mirrors for Princes" genre.[2] The "mirrors" typically offer advice or warnings to a ruler or

ruler-to-be about the sources of political legitimacy, the rights and responsibilities of rulers and ruled, the causes of social instability, and the functions of different government offices.[3] The "Mirrors" genre predates the advent of Islam—arguably beginning with Aristotle's letters to Alexander—but flourished under Islam's classical age (ca. 750–1258 CE) and perdured to the time of the Safavids. It was known for its eclecticism, drawing not just from Islamic sacred scriptures and the actions of pious predecessors, but also non-Islamic historical accounts and mythical heroes.[4] Marshall Hodgson's useful distinction of Islamic as opposed to Islamicate comes to mind, with the Islamicate referring to the public culture of Muslim-ruled societies where both Islamic and non-Islamic traditions and peoples could and did participate.[5] The "Mirrors" is an Islamicate literary genre seemingly tailor-made for the goals of the Safavids: hybridizing the imagery and ideas of Iranian myths and Islamic piety.

Situating Tahmasp's Memoirs and Letter to Selim II: the "Mirrors for Princes" genre

The *Shahnama* of Tahmasp readily matches the conditions of the "Mirrors" genre as it contains the text of Abu'l-Qasem Ferdowsi's tenth-century CE epic poem that celebrates the triumph and folly of mythical and historical Iranian rulers, complemented with the hundreds of meticulously detailed illustrations that Tahmasp commissioned in the sixteenth century.[6] *Shahnama*, after all, translates to "Book of Kings." However, the suitability of the *Memoirs* or *Letter to Selim II* would seem less apparent. A personal memoir and diplomatic entreaty would ostensibly fall outside the categories of art or literature. But despite their names, both written documents are not private compositions, but publicly performed pieces of rhetoric.[7] The *Memoirs* originated as oratory, which Tahmasp delivered to his court and to visiting Ottoman dignitaries in 1562. Later, he had them edited and transcribed to offer guidance to his descendants. A copy was gifted to a Shi'a kingdom in the Deccan region of South Asia, cementing links between the two and asserting Safavid cultural and intellectual prestige as the leading Shi'a polity.[8] In his *Memoirs*, he constantly warns about the dangers of scheming foreign rivals and treacherous subordinates, heaping opprobrium upon invading Uzbeks and singling out a number of Qizilbash chieftains who either mistreated him when he was young or sought to undermine him when he was grown.[9] His narration of his struggles in the *Memoirs* signals the lessons Tahmasp wanted to pass down to his descendants. He writes that he wishes for his memoirs to be "a lasting memorial of me and a manual (*dastur al-'amal*) for my noble children and beloved people, so that whenever our supporters read it they will remember us with a prayer."[10]

Similarly, Tahmasp's emissaries read the *Letter* aloud to Sultan Selim II in front of his court at Edirne after Tahmasp's finest wordsmiths had labored for months on the precise language to use. [11] Tellingly, the *Letter* presented two splendid gifts for the Sultan from the Shah: a Qur'an allegedly owned and signed by Ali b. Abu Talib, the first Shi'a imam and the fourth Sunni caliph, and the illustrated *Shahnama*, implicitly marrying the two traditions of authority—Islamic Shi'a and Iranian imperial—in the person of Tahmasp.[12] The entire ceremony served to show off the Safavid's intellectual, cultural, and genealogical superiority, and thus their right to be kings, in the face of decades of Ottoman military superiority.[13] Even when not actively read, Tahmasp's *Shahnama* served as a prop to perform legitimate kingship.

In addition to their context, the *Memoirs* and *Letter*'s internal content and structure (e.g., the lavish descriptions of gardens, endless repetition, baffling omissions,[14] and poetic interpolation) go beyond merely conveying information and function to construct the image of the ideal king, offering advice on politics and legitimacy just as a classical "Mirror for Princes" manual would. In particular, they stress the divinity and decisiveness that make a lineage worthy of kingship. Both the *Letter* and the *Memoirs* make comparisons between key figures of the *Shahnama* (e.g., Jamshid, Faridun, Kay Khosrow) and contemporary rulers, favorably for some and not so favorably for others.[15] Regardless, the effect is to draw upon this Persianate imperial heritage as a benchmark to evaluate legitimacy amongst kings. Thus, no less than the illustrated manuscript associated with them, the *Memoirs* and *Letter to Selim II* fall into the "Mirrors" genre and can be productively analyzed from this vantage point. To my knowledge, Tahmasp's *Shahnama*, *Memoirs*, and *Letters* have never been analyzed together in the English language, which presents the opportunity for this investigation to add something new to the scholarly conversation surrounding the second Safavid emperor.

The Life of Tahmasp

Born in 1514, just months before his father—Shah Isma'il (r. 1501–24)—faced a crushing loss at Chaldiran, Tahmasp spent his childhood as governor of Herat, though in practice, his Qizilbash *laleh* (tutor; regent; guardian) would both rule Herat and raise him. Before the Uzbek and Safavid conquests in 1507 and 1514, respectively, Herat had been the center of Timurid-style art, noted for its "balanced composition, crystalline clarity, and technical brilliance."[16] In contrast, the Turcoman style, dominant in Tabriz both before and after Isma'il's conquest, distinguished itself with its gusto, vibrancy, irrationality, and wildness in color and composition.[17] The wildness of Turcoman art reflected the heterodox and ecstatic religiosity popular amongst the Qizilbash. Returning to the Safavid capital in 1522 and inheriting the throne—at least in name—in 1524, Tahmasp also inherited his father's atelier, which Isma'il had accumulated through his military victories: capturing not just the cities of Herat, Tabriz, and more, but also their libraries, manuscripts, and some of their finest artists for his descendants.[18] Tahmasp was uniquely situated by virtue of his father's conquests and his steeping in Timurid artistry to effect a synthesis between the Turcoman and Timurid, these Dionysian and Apollonian strands in Central Asian art. Indeed, much of the beauty and appeal of Safavid art comes from its "integration of the refined, cool, and classical Bihzadian style of Herat with the exuberant, vibrant, and brash style practiced in Tabriz."[19] The development of a royal artistic style would be enormously useful for buttressing the dynasty's legitimacy and weaning it off its dependence on powerful Qizilbash tribal chieftains. The Qizilbash, who, after being somewhat marginalized in favor of Persian administrators during the final decade of Isma'il's rule, returned with a vengeance during Tahmasp's minority (1524-1534) to claim key positions in the kingdom.[20]

The first ten years of Tahmasp's reign are often termed the Qizilbash interregnum due to a succession of Turcoman tribal chiefs *de facto* ruling the country, only to be murdered and replaced with another: "Thus, the Ustajlu tribe lost to the Rumlu, the Rumlu to the Takkalu, the Takkalu to the Shamlu, and by 1533, the Shamlu were also out of favor."[21] Despite

his self-presentation in his *Memoirs* as an active and decisive king since the beginning of his reign, the boy-king Tahmasp largely functioned as but a legitimizing figurehead during this era.[22] The constant infighting among the Qizilbash not only weakened the Safavids internally, but invited foreign invasion: the Uzbeks occupied Khorasan five times between 1524-1531 and the Ottomans, sensing opportunity after their ceasefire with the Hapsburgs, deployed troops east to annex Safavid territory in 1533. While Tahmasp lacked real political power during his early years, he remained an enthusiastic patron of the arts, having considerable training in painting from his days in Herat.[23] It was amidst these terribly tempestuous early years that Tahmasp's *Shahnama* was illustrated; unsurprisingly, up to one-third of the illustrations in the *Shahnama* of Tahmasp portray battle scenes between Iran and its Turkic neighbor, Turan—standing in for the Turkic Uzbek and Ottoman invaders of the time.[24]

The illustration of the *Shahnama* occurs roughly simultaneously with efforts to pivot away from the more ecstatic, next-worldly messianism of Isma'il and the Qizilbash to the more sober, this-worldly legal Shi'ism of Tahmasp and more orthodox Shi'ism—though the apocalyptic inflection of Isma'il would never fully leave his descendants. Some scholars speculate that such efforts intended to undermine the Qizilbash emirs and consolidate the dynasty around the Persian and Lebanese religious-bureaucratic elite.[25] Indeed, once Tahmasp achieved *de facto* rule in 1533-1534 he immediately placed his most trusted (and only uterine) brother, Bahram Mirza, in charge of Shamlu military forces, an unprecedented usurpation of tribal prerogative.[26] He then quickly moved to issue his first Edict of Repentance to curb drinking, debauchery, and other heterodox pastimes of the Qizilbash, appointed Qadi-yi Jahan Qazvini, a Persian, as his *vakil* (vizier) after nearly a decade of Qizilbash in the position, and continued to import Arab Shi'a, especially Lebanese, to fill the top religious posts, such as chief *mujtahid* (jurisconsult).[27]

Reconfiguring the (Super)Natural

These political efforts received an artistic complement in the *Shahnama*. Qizilbash religiosity remained highly ecstatic, mystical, wild, and heterodox, exemplified in figures such as Durmish Khan, Isma'il's drinking companion, and the Turcoman artwork of the pre-Tahmasp era where the boundaries between the natural and supernatural were blurred.[28] Demons and angels lurked hidden in landscapes, beyond the rational mind's ability to fully comprehend or describe. The illustrated *Shahnama* of the Turcoman prince Baysunghur, for instance, blurred boundaries between the natural and supernatural, reflecting its patrons more ecstatic and mystical religiosity, precisely the type of religiosity Tahmasp was attempting to distance himself from.[29] Durmish Khan was not only one of Isma'il's drinking bodies, but ruled Herat on behalf of another one of Isma'il's sons after Tahmasp left, commissioning the tomb of Harun-i Vilayat—a shrine for a Shi'a holy man.[30] He exemplified the role of the Qizilbash in Safavid life and culture under Isma'il. Noteworthy is the fact that Tahmasp hated Durmish Khan and what he represented:

> On the day my father did battle… Durmish Khan and the rest of the amirs, indeed his whole army, were drunk. They drank wine from dusk till dawn and then prepared to do battle. This was a stupid and vile affair. From that time, whenever the story of the battle of Chaldiran is

Figure 1: *Folio 36v, Faridun strikes down Zahhak with the angel looking on.*[31]

mentioned, I curse Durmish Khan.[32]

In Tahmasp's *Shahnama*, the supernatural is stylistically distinct and often physically removed from the natural world, which might have served to undermine the potency of Qizilbash religiosity and instead consolidate the more sober, Shia piety Tahmasp favored.

For instance, in the illustration *Faridun Test His Sons*, Faridun, the legendary Persian king, transforms into a dragon to observe how courageously his children would react to a sudden threat. Not interwoven with the background, Faridun as a dragon appears clear and distinct from the world around it.[33] In a later story, when Fardiun strikes down the demon king Zahhak, an angel comes to speak with him. But Tahmasp's illustrators add further details not present in the text of the epic poem: the angel remains virtually out of frame, visually cut off from the palace where worldly activities take place.[34] When Faridun is inaugurated as the new king of Iran, the angels sprinkle blessings upon him from above, but again in the illustrations, they are totally separate from the palace festivities, with one angel peeking his head over Faridun's roof to get a glimpse of the pomp and ceremony.[35] The Baysunghur *Shahnama*, an exemplary of Turcoman-Qizilbash sensibilities in the early Safavid period, does not separate the supernatural from the rest of reality in this way.[36]

Ferdowsi—the author of the text of the *Shahnama*—begins the narrative in praise of God for creating the intellect, which he refers to as the "crown worn by rulers…guide to both worlds."[37] Tahmasp's distaste for the wildness of Qizilbash mysticism and concomitant embrace of legalistic, orthodox Shi'ism might have affected a determining imprint upon the illustrations of the *Shahnama*, intensifying its rationalist potentialities. Once where demons and spirits hid in the underbrush and palaces, physically interwoven with the natural world, they now increasingly take definite shape, emerging as something distinct and separate from the realm of men but nevertheless intelligible to their rational mind. Tahmasp's *Shahnama*, thus, breaks with Turcoman style through its portrayal of the natural/supernatural as a rupture rather than a continuum, possibly functioning to undermine Qizilbash religious sensibilities. Tahmasp's reign, then, may give a glimpse of one facet of the early modern subjectivity (including its increasing bifurcation of matter and spirit) that Shah Abbas I (r. 1588–1629) would assiduously cultivate in Isfahan a few decades later.[38]

Light upon Light: Noor and Farr

In addition to playing with the natural/supernatural, the *Shahnama* of Tahmasp consolidates a Persian-inflected Twelver Shi'ism as the basis of Safavid rule through the elision of Shi'a and Persianate imagery on light. Twelver Shi'a religious tradition dwells heavily on the concept and word of light (*noor*), which, in their artistic productions, signifies the exalted wisdom and purity of saintly beings, especially the Prophet and the Twelve Imams, who are given a halo of *noor*.[39] *Noor*, then, becomes a visual shorthand for the Twelve Imams and their right to leadership of the Muslims by virtue of their holiness, which later Shi'a kings and scholars will deliberately reference when laying claim to their charisma.[40] For instance, in the image *Firdausi's Parable of the Ship of Shi'ism*, the Prophet and the Imams have their heads surrounded with fiery *noor*, while rays of sunlight point directly towards them.[41] Nowhere in the text of Firdausi's poem does *noor* or sunlight figure at all.[42] The inclusion of light around the Shi'a Imams represents a deliberate choice on behalf of Tahmasp's atelier,

Figure 2: *Folio 166r: The Fire Trial of Siyavush, who emerges in a cloak of light and flame.*[43]

drawing upon earlier Shi'a beliefs and visual motifs. Similarly, in the image, the Prophet and his descendants wear Qizilbash *tajs* (turbans), furthering the connection between them and the Safavids.[44]

In Zoroastrianism and the later Iranian dynasties that patronized it, *farr* referred to divine recognition of a king's rule.[45] Righteous kings would receive visual representation with light emanating from their head, symbolizing their *farr*. Thus, in the *Shahnama* of Tahmasp, the First Kings of Persian legend, the Gayumars, receive a fiery halo of *farr* around their entire bodies.[46] Firdausi writes that the first king Gayumars was "splendid as the sun…like a tall cypress tree topped by the full moon, and the royal *farr* shone from him."[47] Though visual distinctions exist, the similarities between how Tahmasp's artists presented *farr* and *noor* are unmistakable: halos of illumination which signal the divine's assent to the rule of the light-bearer. In drawing upon and fusing the imagery of two traditions of sacred leadership, the Safavids implicitly place themselves as the legitimate successors to both lineages.

Indeed, the motif recurs during the trial of Siyavush. Throughout the portion of the *Shahnama* where he appears, palace courtiers and servants regularly comment on his intellect–the supreme kingly virtue in Ferdowsi's eyes: "so noble and so cultivated…He seems an angel, not a man at all…And his soul just radiates wisdom."[48] The sagacious heir to the weak and vacillating Kay Kavus, Siyavush rejected the advances of Subadeh, Kay Kavus's favorite wife, who then staged her own miscarriage and charged Siyavush with infanticide. To prove his innocence to his father and the court, Siyavush had to walk through a mountain of fire. In the text of the *Shahnama*, Siyavush mounts his horse, enters the flames, disappears entirely from view, then re-emerges at the other end, miraculously unscathed. "Seyavash [Siyavush] appeared before his father and there was no trace of fire or smoke or dust or dirt on him."[49] Yet in the illustrations of Tahmasp's *Shahnama*, Siyavush emerges in a splendid cloak of flame, evoking the halos of *noor* and *farr*. Indeed, Kay Kavus's hands and face are covered with a dark veil, seemingly signaling his lack of kingly wisdom through the visual antithesis of *noor/farr*.[50] Siyavush, unsurprisingly, also wears a Safavid style turban. Thus, the trial of Siyavush demonstrates the Safavid atelier continuing to fuse the visual motifs of Persian kings and Shi'a Imams into a distinctly Safavid idiom, presenting themselves as model kings.

Gardens: Royal and Divine

Finally, the Safavids borrow and modify from Islamic and Iranian visual traditions on gardens, again placing themselves as the legitimate heirs to both. In Islamic soteriology, paradise is *jannah* (literally, garden), which the Qur'an regularly reaffirms is a place ruled by God "beneath which rivers flow" (Q 4:13-14; 2:25; 66:8; etc.) with beautiful companions to serve the righteous. God, of course, is the ultimate Sovereign, and thus, His gardens are similarly unmatched. In the text of the *Shahnama*, true kings are associated with gardens in general and cypresses in particular. Gayumars, the first mythical king of Iran, resembled a cypress. When the wise prince Siyavush is slain, his spilled blood transforms weeds into "tall cypresses"[51] in addition to reviving the flora and fauna in the nearby surroundings. In the search for a successor to Siyavush, Kay Khosrow's kingly bearing gives him away: "cypress-tall… God-given *farr* was apparent in his statute, and wisdom in his mien."[52]

The illustrations provided by Tahmasp's atelier further expound on the motif, having

Figure 3: *Folio 210v: Kay Khosrow, the rightful heir to the Iranian throne, identified by his proximity to greenery.*[53]

righteous kings surrounded with verdure and flanked with cypresses while impulsive and weak rulers are distinguished via nature's relative absence. Thus, the *Court of Jamshid* illustration takes place amidst splendid greenery with cypresses rising in the background directly behind the newly crowned king, who radiated "royal *farr*."[54] The "good and fine king" Mirdas, even as he dies, remains enveloped by his gardens and twin cypresses that overlook his untimely demise.[55] In contrast, the demon king Zahhak, who had devilish snakes sprouting from his shoulders, has a tree behind but visually, it is obscured and bisected.[56] Similarly, when Kay Kavus publicly castigates noble Siyavush on false evidence, Kavus's court is completely closed off from the natural world: windows are shuttered, there is not a cypress in sight. However, when Kay Kavus decides to heed the counsel of wise men, a cypress appears in the background behind him.[57] When he rejects their advice and leads to Siyavush fleeing Iran and dying, the cypress disappears and greenery is constricted to but a few flower petals in contrast to earlier, resplendent vines.[58] Consistently, righteous kings are associated with bucolic, pastoral imagery which deserts rulers who behave unwisely.

Tahmasp draws upon the imagery of divine and kingly gardens to present himself as the ideal ruler. Indeed, after praising God, his *Memoirs* begin with the following verse: "Aspire not to the verdure of the sharia's gardens without the flashing sword of the mighty sultans;/ without the protection of strife-quelling kings no one can rest for a single moment in safety's abode."[59] "Safety's abode" in particular is translated from *sa'adatabad*, which was also the name of Tahmasp's own gardens in Qazvin. They would later serve as the model for Shah Abbas I's remaking of Isfahan.[60] Identifying himself with the beauty of his own gardens signaled to other elites—well versed in the motifs of Islamic and Persianate imperial authority—Tahmasp's own legitimacy as a king. In his *Letter*, Tahmasp quotes directly from the Qur'an's description of paradise to use for his description of his own gardens:

> In those paradisiacal fields, where the sun and moon meet, flasks of silver and goblets of gold are filled with liquor mixed with cloves and cinnamon in commemoration of: 'And they will be given [in Heaven] a cup of wine mixed with *zanjabil* [ginger].' [Q:76:17]. The moon-faced cupbearers held gilded porcelain decanters. The decanter was happy with its fortune, because the hands of the rosy-cheeked ones were on its neck. And the goblet's mouth has stayed out of happiness, because it has kissed the lips of the coquettish ones. From every direction, the youthful ones who are like the servants of heaven—who have girded themselves with the belt of submission—carry porcelain dishes full of fruits [in accordance with 56:32-33], "and fruit in abundance whose season is not limited nor its supply forbidden.[61]

Tahmasp audaciously uses descriptions of heavenly paradise for his own gardens, seeking proximity to the divine and the authority associated with it. Indeed, Tahmasp commissioned his *Letter* precisely to renew peace with the Ottomans after Selim II's ascension to the throne. Where he once cursed Ottoman stupidity and separation from the divine in his *Memoirs*, in the *Letter* he praises the Sultan as a "blessed," "wise man," who "blossoms the

buds of meaning in the garden of speech and makes the garden of speech green and watered it by the rain cloud of eloquence and the clear water of rhetoric," whereupon "breezes of divine approval" blow.[62] The tortured, verbose metaphor invokes the imagery of gardens and sacredness to signal Safavid recognition of Ottoman legitimacy, and their hope for Ottoman reciprocity. The gambit and the gifts succeed; Sultan Selim II renews the détente his father authored in the 1555 Peace of Amaysa.[63] Thus, Tahmasp's *Shahnama*, *Memoirs*, and *Letter* all draw upon Islamic and Iranian affection for the divinity and dignity of gardens, deploying them to strengthen the authority of the Safavid dynasty.

Contemporary discourse often prefigures the Safavids as nothing more than an Iranian nation-state in embryo, a proto-Pahlavi dynasty (1924–79).[64] Certainly, the Safavids paved the way for the future, but if this investigation has shown anything, it is the perdurance of Central Asian artistry and the openness of the medieval Islamicate. Was not the Safavid artistic synthesis a reconciliation between Turcoman and Timurid styles? Were not the Safavids themselves interlopers from the Caucuses who nevertheless made use of the ideas and imagery of the Persian administrators, Arab clerics, and Turcoman chieftains they ruled? They creatively selected, modified, and transmitted Iranian, Islamic, and Turcoman sensibilities around the supernatural, light, and gardens to bolster their own kingship. Artistic and cultural flourishing occurred under Tahmasp's neighbors and near-contemporaries, the Ottoman Suleyman (r. 1520-1566) and the Mughal Akbar (r. 1556-1606), who were similarly unafraid of eclecticism.[65] Peering into the past via the *Shahnama* affords the viewer not only a mirror to the present, but a glimpse at layers upon layers of possibilities within the medieval Islamicate.

Notes

1. *Qizilbash* literally means "redhead" and functioned as a metonymy for the distinctive red-head gear of Turkmen tribes who fought for Shah Isma'il and his descendants. [Sinem Arcak Casale, *Gifts in the Age of Empire: Ottoman-Safavid Cultural Exchange, 1500-1639*, (Chicago: The University of Chicago Press, 2023), 4.].

2. Amir Maziar, "Art as an Image of the Shah: Art, Rhetoric, and Power in Shah Tahmasp's Letter to Sultan Selim II," *Manazir Journal* 5 (2023): 90.

3. Louise Marlow, "The Arabic, Persian, and Turkish Mirror Literatures," *Medieval Muslim Mirrors for Princes: An Anthology of Arabic, Persian and Turkish Political Advice*, (New York: Cambridge University Press, 2023), 5.

4. Marlow, *Medieval Muslim Mirrors for Princes*, 4

5. "Islamdom does not designate in itself a 'civilization,' a specific culture, but only the society that carries that culture. There has been, however, a culture, centered on a lettered tradition, which has been historically distinctive of Islamdom the society and which has been naturally shared in by both Muslims and non-Muslims who participate at all fully in the society of Islamdom. For this, I have used the adjective 'Islamicate.' I thus restrict the term 'Islam' to the religion of the Muslims, not using that term for the far more general phenomena, the society of Islamdom and its Islamicate cultural traditions." [See Marshall G.S. Hodgson, *The Venture of Islam: Conscience and History in a World Civilization*, Vol. 1: The Classical Age of Islam, 3 vols. (Chicago: The University of Chicago Press, 1974), 58.].

6. "But, although intended to delight and amuse its young patron, a book such as the Houghton *Shahnameh* was also meant to instruct. Its tales summarize the lore of the civilization in which it was created. At once a history, political text, and religious treatise, it is a compendium of the body and mind, the intuition and intellect, the philosophy of the entire culture." [See Martin Bernard Dickson, and Stuart Cary Welch, *The Houghton Shahnameh*, Vol. II (Cambridge, MA: Harvard University Press, 1981), 13-14.].

7. Maziar, "Art as an Image of the Shah," 91.

8. A.C.S. Peacock, "Introduction," In *The Memoirs of Shah Tahmasp I: Safavid Ruler of Iran*, by Tahmasp, translated by A.C.S. Peacock, (New York: I.B. Tauris, 2024), 14

9. Gregory Aldous, "The Qizilbash and their Shah: The Preservation of Royal Prerogative during the Early Reign of Shah Tahmasp," *JRAS* 3, no. 31 (2021), 744-45.

10. Tahmasp, *The Memoirs of Shah Tahmasp I: Safavid Ruler of Iran*, translated by A.C.S. Peacock, (New York: I.B. Tauris, 2024), 50-51.

11. Maziar, "Art as an Image of the Shah," 89.

12. Casale, *Gifts in the Age of Empire*, 75-77.

13. Casale, *Gifts in the Age of Empire*, 106.

14. For instance, the entire of episode of the Mughal, Humayun, seeking refuge with the Shah, converting to Shi'ism, and then conquering his father's kingdom is not mentioned once in Tahmasp's *Memoirs*, despite the walls of Safavid palaces depicting Humayun's temporary vassalage to the Safavids. (See Peacock, "Introduction," In *The Memoirs of Shah Tahmasp I*, (2024), 28.).

15. Maziar, "Art as an Image of the Shah," 94.; Tahmasp, *The Memoirs of Shah Tahmasp I,* 75-76.

16. Sheila S. Blair, and Jonathan M. Bloom, "The Arts in Iran and Central Asia under the Timurids and their Contemporaries." In *The Art and Architecture of Islam: 1250-1800*, by Sheila S. Blair and Jonathan M. Bloom, (New Haven, CT: Yale University Press, 1994), 64.

17. Dickson and Welch, *The Houghton Shahnameh*, 17, 20.

18. Dickson and Welch, *The Houghton Shahnameh*, 30.

19. Sheila S. Blair and Jonathan M. Bloom, "The Arts in Iran under the Safavids and Zands," In *The Art and Architecture of Islam: 1250-1800*, by Sheila S. Blair and Jonathan M. Bloom, (New Haven: Yale University Press, 1994), 169.

20. Sheila R. Canby, "The World of the Early Safavids," In *Hunt for Paradise: Court Arts of Safavid Iran, 1501-1576*, edited by Jon Thompson and Sheila R. Canby, (New York: Asia Society Museum, 2003), 9.

21. Canby, "The World of the Early Safavids," 9.

22. Rula Abisaab, *Converting Persia: Religion and Power in the Safavid Empire*, (New York: I.B. Tauris, 2004), 3.

23. Dickson and Welch, *The Houghton Shahnameh*, 34.

24. Casale, *Gifts in the Age of Empire*, 72-73.

25. Aldous, "The Qizilbash and their Shah," 757-758; Chad Kia, *Art, Allegory, and the Rise of Shiism in Iran, 1487-1565*, (Edinburgh, UK: Edinburgh University Press, 2019), 138-139

26. Canby, "The World of the Early Safavids," 9.

27. Abisaab, *Converting Persia*, 12-13, 44.

28. Blair and Bloom, "The Arts in Iran and Central Asia under the Timurids and their Contemporaries," 55.; "Instead, this Turkman artist delights us with his imaginative fairyland, which catches us up in its brighter hues (very rich lapis lazuli, salmon-pink, orange, and a multitude of accents set against tan, off-green, and pale blue-violet grounds). His world is composed of dragon-claw clouds, cliffs containing a wondrous concealed zoo of amiable beasts and monsters, stones and rocks that belong in a jeweler's window, and highly stylized Chinese-influenced flowers. These last, particularly Turkman in flavor, lend the entire picture the sweetness of a spring bouquet, though most are derived from art rather than observation of nature. Forms whirl and spin or soar and plunge, like pinwheel and skyrockets. Often unnaturally large, this vegetation might have burgeoned from tropical jungle." (See Dickson and Welch, *The Houghton Shahnameh*, 17.).

29. Blair and Bloom, "The Arts in Iran and Central Asia under the Timurids and their Contemporaries," 65-66.

30. Canby, "The World of the Early Safavids," 7.: "Durmish Khan was associated throughout Isma'il's life with activities that amused the Shah. He arranged extravagant practical jokes, epic drinking parties and elaborate receptions for visiting dignitaries, complete with the public immolation of rebels."

31. All illustrations are from the following source and can be identified from their folio number: Mariani Philomena, *The "Shahnama" of Shah Tahmasp: The Persian Book of Kings*, translated by Sheila R. Canby, (New Haven, CT: Yale University Press, ed. 2011).

32. Tahmasp, *The Memoirs of Shah Tahmasp I*, 81.

33. Mariani, *The "Shahnama" of Shah Tahmasp*, 49.

34. Mariani, *The "Shahnama" of Shah Tahmasp*, 43.

35. Mariani, *The "Shahnama" of Shah Tahmasp*, 45.

36. Robert Hillenbrand, "Exploring a Neglected Masterpiece: The Gulistan Shahnama of Baysunghur," *Iranian Studies* 43, no. 1, (2010): 111.

37. Martin Bernard Dickson, and Stuart Cary Welch, *The Houghton Shahnameh*, Vol. I. (Cambridge, MA: Harvard University Press, 1981), Folio 16 Verso, Color plate 3.

38. Farshid Emami, *Isfahan: Architecture and Urban Experience in Early Modern Iran*, (University Park, PA: Pennsylvania State University Press, 2024), 28.
39. Casale, *Gifts in the Age of Empire*, 91.
40. Casale, *Gifts in the Age of Empire*, 91.
41. Mariani, *The "Shahnama" of Shah Tahmasp*, 26.
42. Abolqasem Ferdowsi, *Shahnameh: The Persian Book of Kings*, translated by Dick Davis, (New York: Penguin Books, 2006), 6-7.
43. Mariani, *The "Shahnama" of Shah Tahmasp*.
44. Mariani, *The "Shahnama" of Shah Tahmasp*, 26.
45. Negar Habibi, "The Sacred King in the Shah Tahmasp Shahnama: The Tree as a Generative Idea of the 'Idea of Kingship'," *Manazir Journal* 5, (2023): 102. Farr is a shortening of the phrase Farrah I Kayan which translates to "royal glory."
46. Mariani, *The "Shahnama" of Shah Tahmasp*, 27.
47. Ferdowsi, *Shahnameh*, 40.
48. Ferdowsi, *Shahnameh*, 265.
49. Ferdowsi, *Shahnameh,* 272.
50. Mariani, *The "Shahnama" of Shah Tahmasp*, 127.
51. Ferdowsi, *Shahnameh*, 323.
52. Ferdowsi, *Shahnameh*, 327.
53. Mariani, *The "Shahnama" of Shah Tahmasp*.
54. Ferdowsi, *Shahnameh,* 46.; Mariani, *The "Shahnama" of Shah Tahmasp*, 31.
55. Ferdowsi, *Shahnameh*, 47.; Mariani, *The "Shahnama" of Shah Tahmasp*, 32.
56. Mariani, *The "Shahnama" of Shah Tahmasp,* 33.
57. Mariani, *The "Shahnama" of Shah Tahmasp,* 126.
58. Mariani, *The "Shahnama" of Shah Tahmasp,* 146.
59. Tahmasp, *The Memoirs of Shah Tahmasp I*, 50.
60. Maziar, "Art as an Image of the Shah," 93.
61. Maziar, "Art as an Image of the Shah," 94.
62. Maziar, "Art as an Image of the Shah," 92.
63. Casale, *Gifts in the Age of Empire*, 75.
64. Marshall G.S. Hodgson, *The Venture of Islam: Conscience and History in a World Civilization: The Gunpowder Empires and Modern Times*, Vol. III (Chicago: The University of Chicago Press, 1974), 27-28.
65. "At the start of the sixteenth century, a general realignment of political forces among all the Muslim peoples afforded an opportunity for extensive political and then cultural renewal. It had major cultural consequences almost everywhere, which largely determined the history of the two or three centuries following." [See Hodgson, *The Venture of Islam*, Vol. III, 4.]. For an updated view of 16th century renewal, please see Francis Robinson, "*Introduction,*" Vol. V, in *The New Cambridge History of Islam: The Islamic World in the Age of Western Dominance*, edited by Francis Robinson, (Cambridge, UK: Cambridge University Press, 2011), 16-17.

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Daanesh wrote the original version of this paper in the Fall of 2024 for HIST 368: the Age of Islamic Empires under the supervision of Professor Lisa Balabanlilar. Curious to explore time periods and subject matters beyond his well-trodden fascination with the experience of global modernity in the 19th and 20th centuries, Daanesh quickly became intrigued the more he learned about the Safavids and their cultural productions. His investigation into the life and art of Shah Tahmasp I cannot escape the imprint of his sociology training; stressing the formative period of an agent's subjectivity, interpreting social life through the metaphor of a performance, considering how traditions are remade and recast amidst turbulent cultural moments all drive his analysis.

In the Field

Nhu Chu

More Public Interaction and More Government Worry: An Examination of Public Gardens and Coffeehouses in 18th and 19th Century Istanbul

Elena Alvarado

ABSTRACT

Istanbul has been known for its diversity and public landscape throughout its history, and this is particularly true in the eighteenth and nineteenth centuries, a period of imperial stress and social change. This work examines public spaces and order in Istanbul through public gardens and coffeehouses during this era, facilitated by closely examining the works of two foreign visitors. Specifically, I will explore the experiences of various people in these places. These public realms became a place of mixing of individuals from entirely different backgrounds, but not without the oversight of the Ottoman government.

Introduction

Istanbul has been known for its diversity and public landscape throughout its history, and this is particularly true in the eighteenth and nineteenth centuries, a period of imperial stress and social change.[1] This work examines public spaces and order in Istanbul through public gardens and coffeehouses during this era, facilitated by closely examining the works of two foreign visitors. Specifically, I will explore the experiences of various people in these places. These public realms became a place of mixing of individuals from entirely different backgrounds, but not without the oversight of the Ottoman government.

Public Gardens

Vegetable gardens and squares comprised most of the green space in Istanbul during the nineteenth century. However, the role of public gardens surpassed that of vegetable gardens during this time period in cultural significance, if not size.[2] Unfortunately, these public gardens did not last forever in the same form. Later in the 19th century, French-style gardens began to have increasing dominance, even being suggested for the Hagia Sophia Square, which had opened in 1868,[3] with the Ottoman Empire taking on a more European character. Still, public gardens were integral to public life in their era.

Although the process of how and when these gardens were opened to the public is unclear, it is evident why they formed where they were. Many of these public gardens arose from old imperial lands. For example, the garden of Karabâli at Kabataş simply disappeared from the record of the imperial estates. By the 1730s, a large public square had formed in its footprint, and Mahmud I's grand-vizier installed a new fountain. The same fate likely befell other previously dilapidated imperial gardens, including those at Kalender, İncirli, Kandilli, and Sultania.[4] These palatial gardens generally became more open to the public as the elite tired of them—a trend also taking

place in Europe, such as in the gardens of Luxembourg and St. James.[5] Those European gardens opened shortly after the royalty moved to new residences further away, parallel to the Ottomans.

These public gardens were very lush. Historically, gardens have been central to Islamic cultures, with gardens and fountains associated with heaven and described in the Quran, and these public gardens were no exception.[6] Poetry from the late sixteenth and early seventeenth centuries in the Ottoman Empire included references to eighteen different types of flowers, demonstrating the biodiversity in gardens throughout the empire.[7] Istanbul's public gardens were full of natural scenery and fountains that were focal points of interest, which served to reinforce imperial power while also providing a place for people to interact publicly.[8] Public gardens became the lush center of social public life during this period. Unlike those in much of Europe, public gardens in Istanbul were not restricted to those with a key, following a particular upper-class dress code, or with the money for an entry fee.[9] They were, therefore, truly accessible to the public instead of only to a small elite pool.

Notably, some of the public who had access to these gardens were foreigners. John Murray, an Englishman who published a travel guide, *Handbook for Travellers in Turkey in Asia*, noted a public garden in Pera with views of both the Bosphorus and Sea of Marmara. He thought this formed a splendid promenade, especially with the band that occasionally played.[10] Although I have not yet identified any other mention of a band in or near the public gardens, this matches the festive and active environment that will be explored later in this work. Murray also noted the presence of public walks near the summer palace of Beshiktash. This palace, though, offers an example of an imperial garden that was well-maintained and remained closed to the public, leaving passersby only able to imagine its beauty "from the towering cypresses rising [above the walls]... and the creepers which spread their foliage over the naked stone."[11] This description demonstrates that although the empire relegated many older gardens to the public, gardens could still serve as traditional symbols of imperial bravado and power in some cases.

Foreign women were also allowed to visit public gardens, as can be seen in the case of Lady Mary Wortley Montagu. In 1716, her husband had been appointed Ambassador to the Porte to mediate between the Ottoman Empire and the English, who were at war at the time, and Lady Mary decided to join him and bring her son as well.[12] While historic analyses must always consider accounts of foreigners within their context and sometimes incomplete understanding, these sources can still offer different insights into a location. For example, Lady Mary once mentioned that she has "gone [on] a journey not undertaken by any Christian for some hundred years," seeming to forget that Istanbul has a considerable Christian population.[13] However, Lady Mary provides her information on many novel experiences, offering more insight into the city. In the same letter, Lady Mary notes how "the whole ground is laid out in gardens, and the banks of the river set with rows of fruit-trees" and describes many lush family picnics with people sitting on carpets drinking coffee, attended by domestic slaves and servants.[14] This note touches on some significant aspects of the public garden scene in Istanbul, including picnics. The family picnics are intriguing, considering they seem to mean considerable pub-

lic interaction of men and women. This interaction seems unlikely in a world where rules and social norms dictate separation by gender, exemplified by the prevalent male-dominated coffeehouses in this period. Shirine Hamadeh affirms this doubt in her work, explaining that families would split between genders, and women would sometimes be restricted to certain areas, times, or days in the garden.[15] Still, public gardens seem to have been more gender-mixed than anywhere else in the city at the time because both genders could be in relatively close vicinities, mainly depending on the monitoring quality of gardeners, as will be explored later.

Even more fascinating, the rise of such gardens contributed not only to the mixing of genders but also to the mixing of people from different economic statuses and ethnic identities. Many groups, including "'Turks, Rayas, and Franks' [have been] sketched, painted, and described" spending leisure time in the garden.[16] Whether relishing a picnic as described above, "making garlands for their favorite lambs," or simply enjoying a promenade on the way to other leisure spaces such as cafes, these various peoples were allowed to occupy this space and perhaps interact.[17]

Kiosks (pavilions) had existed in imperial gardens, such as in the Topkapi Palace,[18] serving a rather unclear role. Lady Mary's observations clarify that these kiosks were retained, and their role solidified as a gathering place, as she explains that "in the public gardens there are public chiosks, where people go that are not so well accommodated at home, and drink their coffee, sherbet, etc."[19] Also, such a mention of the poorer classes with nowhere else to drink their coffee is significant as it demonstrates the range of people in these gardens. People in these gardens were both wealthy enough to enslave individuals who could carry and serve them coffee outside their homes and people poor enough that the garden was the only place they could get their coffee. As an aside, coffeehouses were available to men of all social classes, as will be discussed later. Nonetheless, the garden served to unite all these people.

In her work on public spaces in Istanbul, Hamadeh explores Lady Mary's pieces further, noting that gardens were not the only imperial establishments handed over to the public. Additionally, state lands such as the forest of Belgrad were opened for public use and had become quite fashionable by the time Lady Mary visited in 1717.[20] This observation, in conjunction with Murray's of the still imperial garden, demonstrates that the empire was giving up a significant amount of their land but retained some for imperial use.

The fact that the empire had given up this land did not mean that they had wholly rescinded control. On the contrary, palace gardeners became a police force known as the *bostanci* corps and patrolled the Golden Horn and the Bosphorus. Initially, they were only in charge of the Topkapi Palace and its vicinity, but their influence grew with the expanding imperial residences. Notably, they also ran surveys of neighborhoods and shops along the shores of the Golden Horn and Bosphorus, keeping track of mansions, houses, shops, coffeehouses, and wharfs. The corps, separated from the janissaries and of Bosnian background, were also in control of fisheries and the importation of wine. More relevant for the focus of this work, they arrested and punished all criminal delinquents caught in public parks on the waterfront.[21] In her letters, Lady Mary notes that she likes Turkish law because "convicted liars… are burnt in the forehead with a

hot iron."[22] Although it is unclear from this letter which sort of police force would enact this punishment, it provides a perhaps sensationalized view of how strict the law was in theory. Lady Mary's mention of dress codes is another law that seems much easier to take at face value. When discussing some Greek home gardeners in Istanbul, Lady Mary explains that in such cozy home gardens, the women of the household "take a liberty not permitted in the town, I mean, to go unveiled."[23] Lady Mary later explains that she has become accustomed to wearing an "*asmack*, or Turkish veil" and even finds it "agreeable."[24] The dress code of this era in Istanbul in places such as public gardens was much more complex than just veiling. Sumptuary laws worked to control behavior and consumption, including public recreation to keep the city in check. These laws focused primarily on coffeehouses, but eventually, the focus shifted to "public attire and garden recreation."[25] Garden recreation rules focused on the types of activities available to everyone and the aforementioned restrictions on when women could be in the garden. Clothing regulations were placed on novice janissaries to keep them protected from harassment and on women and Jewish and Christian communities, as these groups needed to dress in different manners so that they could be differentiated from Muslims on sight.[26]

The *bostanci* corps was significant not only for the regulations they enforced but also culturally. The chief gardener, *bostāncibāṣi,* was also in charge of "the royal hunts, the sultan's barge, and [presiding] over the execution of great men" and of "twenty-five hundred gardeners."[27] The roles in the palace indicate significance to the empire, but the sheer volume of gardeners is also not to be disregarded. The empire was sure to employ enough of them to keep the public in check. In 1717, Lady Mary observed many royal gardeners dressed finely in various colors during Sultan Ahmed III's procession to the mosque.[28] These gardeners not only played an important role in policing a significant amount of land but were also recognized as such by the sultan. They were treated with respect, allowed to partake in this formal procession and were placed just behind the janissaries. This processional indicates that the empire valued their monitoring of public spaces as well as their role as guardians of the sultan.

Coffeehouses

Similar to public gardens, coffeehouses were an integral part of public spaces during this time period. These neighborhood institutions would sit adjacent to a mosque, perhaps have a sort of terrace, and serve to make a public square where people could gather. This combination of coffeehouses and mosques helped form natural gathering places, as people could be encouraged to follow their religious obligations while surrounded by a lively environment.[29] In his travel guide, John Murray notes the energy of coffeehouses, explaining that they are "crowded with Turks, smoking, drinking coffee, and listening to singers and story-tellers."[30]

Coffeehouses were boosted because coffee was legal for Muslims to consume. This offered them a broader customer base and may have reduced the concerns of the authorities although it allowed coffeehouses to become places of significant mixing of religions, economic backgrounds, and ideas.[31] Janissaries ran many of these establishments and could discuss politics, making these significant sources of political organization.[32] Also, coffeehouses were places where various people could access newspapers and discuss

what they had learned.[33] However, this does not mean that coffee shop owners were free of regulation.[34] Perhaps even more so than public gardens, coffeehouses proved to be a great source of government concern.

The presence of Muslim men among non-Muslims in a tavern was not to be taken lightly, and taverns often faced noise complaints.[35] Coffeehouses were viewed as places of disorder or rebellion, and for good reason; the aforementioned political discussion provided fertile ground for dissent. Because of this, the state occasionally closed coffeehouses. This occurred during the reigns of Ahmed III and Mahmud I. Additionally, people found violating laws in coffeehouses, such as smoking a certain kind of opium, could be subject to severe punishment.[36]

In addition, the state sent spies to coffeehouses, other public places, and even boats as they were concerned with criminals or dissent, especially under Selim III (r. 1789-1807) and his brother Mahmud II (r. 1808-1839). Even Lady Mary notes in 1717 that if someone said something negative about the conduct of "a minister of the state… in a coffee-house (for they have spies everywhere)," the entire coffeehouse would be leveled.[37] Selim III used his spies to monitor rising opposition to the sultan's new army, though he did not catch it soon enough, as he was ultimately overthrown in a mutiny that ended his reign. Mahmud II used spy reports to assess the situation before his violent abolition of the janissaries.[38] Clearly, then, these coffeehouses played an integral part in the political life of Istanbul's inhabitants.

Perhaps the most significant difference between coffeehouses and public gardens was the role of gender. As discussed previously, women could access public gardens, but their access was subject to regulations and stipulations that they remain separate from men. Coffeehouses, on the other hand, were entirely male-dominated. Some scholars have argued that this was quite important in that it allowed coffeehouses to become a place for men in poor families to go and socialize, leaving women to have control over their home domain and interact with their female communities.[39] This lack of space was not a problem for upper-class women who had entire house sectors allocated to them. However, these women had what Lady Mary considered "the women's coffee-house" through the bathhouse, where these upper-class women could relax for hours, have their hair braided by enslaved women, and discuss all the town gossip.[40] Separate realms for women and men were seen as necessary for Istanbul at this time, and coffeehouses provided that for men, while the home and bathhouses served that purpose for women.

In conclusion, public spaces such as public gardens and coffeehouses played an integral role in the social, political, and recreational lives of the people of Istanbul in the 18th and 19th centuries. Perhaps most importantly, though, these spaces also facilitated the remarkable intermingling of people of different economic backgrounds, ethnicities, and, occasionally, genders. However, this interaction was unsettling for the empire, leading to efforts at increased monitoring.

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17. Montagu, *The Letters and Works of Lady Mary Wortley Montagu,* 302.; Çelik, *The Remaking of Istanbul*, 69.

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Although Elena is majoring in Biosciences, she has broadened her studies with a minor in Medieval and Early Modern Studies, and has lately enjoyed several Asian Studies courses focusing on this period. For this work in particular, Elena has enjoyed blending her love of gardens and history into one piece. Thus, Elena is happy to share this paper from ASIA 368: The Age of Islamic Empire, a class she highly recommends.

Litany of Nowhere to Go

Alina Zhong

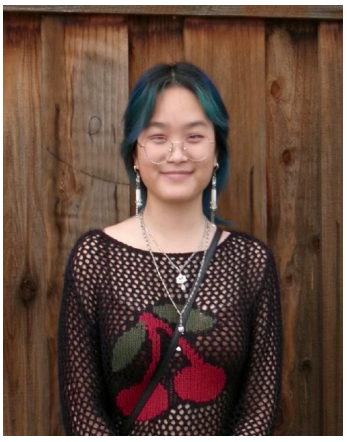
This summer I miss 我媽 and love is not the question / I'm eating ice cream in the back room / tearing open ketchup packets with my teeth / think of my orphaned records and cry / think of spoonfuls of miso paste on hardwood floors and cry / belts that don't fit / jeans too big and too small / think of 媽 alone / think of my dim bedroom / cry / three guitars thick of dust / vine-patterned curtains stiffened shut / trophies and gavels and books ordered by height and color / think of 媽's cracked hands and feet / fingernail clippings / think of 媽 in the kitchen / opening the fridge door / can't stop opening it / I'm pressing my hand against my stomach / measuring the space between skin and waistband / mother / motherland / can't stop / biting new the cut in my lip / overmorrow my language will be returned to her / mouth sour from lack / for love no one knows what to do with me / the stranger child / think I don't want to be sick anymore

Notes

我 / wǒ; "me" (in this case, "my")

媽 / mā; "mother"

ABOUT THE AUTHOR



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Alina Zhong (they/all) is a sophomore at Wiess majoring in Economics and English (literature concentration) and minoring in business. They are a KOC at Rice Coffeehouse, a Community Facilitator coordinator for O-Week, and an advertising manager for The Thresher. In their free time, they are a niche internet micro-celebrity.

Challenges in Emergency Medical Care for Asian Immigrant and Refugee Patients: A Scoping Review and Recommendations

Mohammad Khuroo

ABSTRACT

Social determinants of health significantly affect access and quality of emergency medical care, especially for immigrant and refugee populations. This scoping review explores the facilitators and barriers to prehospital and in-hospital emergency care provided to Asian immigrant and refugee populations, focusing on linguistic, cultural, and systemic barriers. The notable factors identified were the overutilization of emergency services and the presence of language barriers during healthcare delivery. The studies indicated that health illiteracy and barriers to primary healthcare led to the overutilization of emergency care services. Considerations such as language discordance, cultural differences, and trust issues with healthcare providers among Asian immigrants and refugees were found to be the most important findings. These barriers often result in disparities in care, where migrant populations are more likely to experience unnecessary or delayed treatments. This review underlines that healthcare providers need to be culturally informed and proactive to address these disparities to improve emergency care outcomes for immigrant and refugee patients.

Introduction

The access to, quality of, and the outcomes of patient healthcare are determined by factors dependent on the social conditions of a patient. Social determinants of health (SDH) are defined as the conditions under which human beings are born, live, earn, and spend their day-to-day lives (Jumade et al., 2021). These metrics can be translated into more established methods of measuring the social conditions of a human being, such as their socioeconomic status, the geographic location that they reside in, their ethnicity and immigrant status. The World Health Organization (WHO) Commission on Social Determinants of Health (CSDH) said that alleviating SDH for patients is the most beneficial and successful way to improve health outcomes (Jumade et al., 2021). A review conducted by McGinnis et al. (2002) quantified that direct medical care was responsible for only about 10 percent - 20 percent of preventable mortality in the United States. A person's social and economic conditions—such as income level, job status, and ethnicity—can play more of a role in determining the patient's outcome rather than the availability of direct medical care.

In this vein, Radl-Karimi et al. (2020) produced a scoping review highlighting the importance of co-production of healthcare–where the physician and the provider work together, each contributing towards the healthcare imparted to the patient. The physician is the source of the information from which the patient benefits. A relationship of trust, warmth, and understanding must exist between a patient and their provider so that the co-production of *quality healthcare* can take

place. A review conducted by Allen-Duck et al. (2017) delineates four attributes of quality healthcare: one that is effective, safe, reinforces a culture of excellence, and results in the achievement of desirable outcomes for the patient. If the provider is ignorant of the social or economic conditions of a patient, or if they are not from the same ethnic background, this introduces hurdles and mistrust in the co-production process. Patients might feel uncomfortable disclosing crucial information to their physicians, and physicians might feel discouraged to provide relevant medical information to their patients from diverse backgrounds. Hence, characterizing the factors that impact the co-production process is imperative, as this will allow physicians to improve interactions with their patients.

This review will analyze the SDHs impacting one specific patient population–immigrants and refugees. The United Nations and the U.S. Government define an immigrant as someone who chooses to reside in a country different from their home country for economic or societal reasons (Jamil et. al, 2012). On the other hand, a refugee is defined as a person who is displaced from their home country and is unable to return to it, often due to existing conflicts or racial, ethnic, or religious persecution in their countries (Jamil et. al, 2012). Physicians and healthcare providers must understand the problems faced by immigrant and refugee patients, as this plays an important role in the proper delivery of healthcare. In 2023, approximately 184 million people, or 2.3 percent of the world's population, were immigrants (Centers for Disease Control and Prevention, 2022). Likewise, approximately 43.4 million people, or 0.7 percent of the world's population, were refugees in 2023 (Centers for Disease Control and Prevention, 2022). A patient's immigrant or refugee status is an important SDH to consider, as this factor will determine the patient's cultural identity, preferences, and attitudes. Many studies and reviews have characterized the barriers immigrant or refugee patients face while accessing general healthcare in their new home country (Ahmed et al., 2017; Radl-Karimi et al., 2020). Some examples include: (1) language barriers that arise during the physician-patient interaction. Immigrant and refugee patients are more likely to know limited English or have limited knowledge of the commonly spoken language in their host country. If language constraints exist, communicating medical information between the physicians and the patient becomes challenging. (2) respecting the cultural beliefs and attitudes of the patient. Immigrants and refugee patients are more culturally oriented and more likely to retain the cultural practices and behaviors of their native cultures. This can manifest in many different forms, such as preference for the gender of the physician they see, or some immigrant patients may not feel safe or trust physicians who are not members of the same ethnicity.

While there is much research into what factors affect the access to general medical care for immigrant and refugee patients, there is a dearth of research done into the kinds of barriers that exist specifically for emergency medical care, both in-hospital and especially pre-hospital. In-hospital emergency medical care occurs primarily in the form of emergency department (ED) visits. Prehospital care has transformed from just a transportation service to being an integrated part of the healthcare system. It occurs in the form of emergency medical services (EMS) composed of providers, such as paramedics and emergency medical technicians (EMTs). These first point-of-con-

tact providers have a wide scope of practice, enabling them to perform life-saving medical interventions in out-of-hospital settings. Since these providers will often be the first and primary point of contact for immigrant and refugee patients in need of emergency care, it is imperative to understand the unique and complex factors that are at play in this interaction. This review will focus on analyzing studies and literature on the SDH and factors that impact emergency care in both in-hospital and pre-hospital settings.

In addition to considering emergency medicine, this review will focus primarily on analyzing the challenges faced by Asian immigrants and refugees. Asian immigrants constitute the largest ethnic group globally, including immigrants and refugees. Within this group, Indians have the largest diaspora population, while Syrians account for the largest refugee population (Singh, 2022; UNHCR, 2024). Having a plethora of cultural diversity, understanding how the cultural attitudes and norms of this population impact their interaction with emergency healthcare providers is imperative for increasing the delivery of quality healthcare to Asian immigrants and refugee patients.

Methods

In this review, the scoping review method was used. The scoping review protocol was employed for two primary purposes: summarizing the existing findings for the research question and giving recommendations for future research and protocol development. The scoping review was performed using Arksey and O'Malley's five steps for scoping reviews, as outlined by Ahmed et al. (2017). First, the research topic was identified, focusing on the factors that impact emergency medical care for Asian immigrant and refugee patients. Second, relevant studies were identified using a search strategy of the PubMed database using appropriate keywords (mentioned below). Third, relevant articles were selected by removing duplicates and non-English studies, and only studies explicitly addressing emergency medicine and immigrant and refugee patients were retained. Fourth, data and findings from the identified studies were charted into a Microsoft Excel sheet, recording information on the author, year of publication, location, study design, participants' characteristics, research question, results, and perspectives (Table 1). Lastly, the data was organized into two main themes and reported.

Eligibility and Inclusion Criteria

Studies were analyzed and skimmed such that the primary immigrant and refugee patient population analyzed were of Asian origin. Even though some studies might not have explicitly stated the kind of patient population included in their analysis, the location of the study was taken into account. If the region had a lot of Asian immigrants and refugees, then the study was included for analysis. In addition, the type of medical care was also considered before the article was included. Studies and reviews analyzing emergency medical care–both in-hospital as ED visits and prehospital care by paramedics and EMTs–were chosen.

Information Sources and Search Strategy

A literature search strategy was developed based on the research question, and the PubMed database was screened for relevant articles. The search strategy utilized the "advanced search" option in the PubMed database, incorporating the following terms: ("emergency medical services" OR "prehos-

pital" OR "prehospital*" OR emergency medical technician OR "emergency medical technician*") AND (immigrant OR "immigrant*" OR refugee OR "refugee*" OR "asylum seeker*" OR "displaced"). Duplicate articles were removed after the selection of relevant articles. If an article was not accessible, or if it did not answer the research question, or if an article was written in a language other than English, then the article was excluded.

Charting and Information Extraction

After identifying the relevant articles for the analysis, key information was charted into a Google Sheets file, including the name of the first author and year of publication, type of study, participants analyzed, ethnicity of patients, location of the study, and the paper findings. After information extraction was completed, a thematic analysis was conducted to produce findings and recommendations.

Results

Literature Search Results

Upon an initial search in the PubMed database using the search strategy outlined in the methods section, 321 results were retrieved. After screening through the titles and the abstracts and removing duplicates, 40 articles were chosen for further evaluation. Out of the 40 selected for assessment, 29 were removed and excluded since they were other scoping or systematic reviews, did not answer the research question posed, or were not in English. Eleven articles fitting the inclusion and exclusion criteria were analyzed for data extraction and analysis. The findings from these studies are summarized in Table 1.

Author	Year	Location	Study design	Participants	Research Question	Results	Perspective (P=provider, P*=patient)
Stadeli et al.	2023	USA	Focus group interviews	39 EMS providers	The study sought to answer the following question: what are the perceived barriers that EMS providers face to prehospital care with limited English proficiency (LEP) patients?	• Perceived barriers to effective prehospital care were identified as discordance in language, cultural differences, high-stress situations, unclear patient condition, biases introduced by the providers themselves, and patients' distrust of EMS. • Perceived factors that aided in healthcare delivery were the presence of an on-scene interpreter, establishing rapport and trust, patients with high acuity, and relying upon objective clinical presentation. • EMS providers reported choosing conservative treatment and transport options for low English proficiency (LEP) patients, leading to the transport of LEP patients even in a non-emergency situation. The finding was attributed to miscommunication or unrecognized problems lost in translation.	P

Blakoe et al.	2019	Denmark	Survey administer-ed	12,106 callers (patients or patient's family) - 11,131 callers made single calls, and 464 callers made two or more calls within 48 hours	The study wanted to compare the sociodemographic and health-related concerns of callers making repeated calls to the medical helpline within 48 hours versus those who made single calls	• Ethnicity/ immigration or refugee status and household income were associated with making repeated calls. • The odds ratio of calling multiple times was increased for immigrants (1.34 times more likely to call the medical helpline twice or more); however, this result was statistically insignificant. • Authors explained the reasons for this finding by pointing out language barriers and mistrust in the advice given by Danish providers to immigrant patients. • Authors also mention the introduction of selection bias as only 33.3% of the total number of callers in the study's timeframe responded to the survey.	P*
Vicente et al.	2020	Sweden	Semi-structured interviews	12 Prehospital emergency nurse specialists (PENS).	The study sought to understand how PENS perceive their care encounters with ethnic minorities in Sweden.	• The main category derived from the interviews is that immigrant cultures (often group-oriented) and host-country cultures (individualistic) interact in delivering quality healthcare. • Authors also produced further subcategories as extracted from the interviews with the PENS; three main sub-categories include: • immigrant and refugee patients want to be seen and receive help: since linguistic barriers are common, patients often rely on caregivers and their willingness to help. • understanding the patient's experiences: medical providers must reflect on their words and actions to cater their care to the broader context of their patient. • Mutually participating in care: Providers should be active listeners and try their best to include the patient in the formulation of the treatment plan.	P

Hultsjö et al.	2005	Sweden	Focus group interviews	35 nurses or nurse assistants working in-hospital emergency wards, psychiatric ICUs, or out-of-hospital emergency medical services.	The study aimed to uncover and compare the problems faced by staff working in somatic versus psychiatric emergency care when treating an immigrant or a refugee patient.	• The findings concluded that asylum-seeking refugee patients presented the greatest challenge for nurses and nurse assistants in delivering quality healthcare across three medical settings: the emergency ward, ambulances, and psychiatric ICUs. • Some differences between them were noted. In the emergency setting, asylum-seeking patients would often have unique cultural requirements, and emergency staff had to put in much effort to accommodate these needs. • In the psychiatric emergency ICUs, asylum-seeking patients would often be inactive and would not follow medical directions due to prevailing mistrust	P
Suazet et al.	2021	Germany	Interviews with patients attending three emergency department wards of different hospitals	2,327 patients were included in the analysis (1,426 were non-migrants, 633 were 1st generation migrants, and 268 were 2nd generation migrants).	The study aimed to analyze and compare the adequacy of utilization of emergency services by migrant (1st and 2nd generation) versus non-migrant patients.	• After adjusting for confounders, 1st generation migrant patients had significantly lower odds than non-migrant patients to have an adequate utilization of emergency services (odds ratio = 0.78, p-value = 0.046). • For 2nd generation migrants, no statistically significant difference was found when compared to non-migrants (odds ratio = 0.8, p-value = 0.231) • However, adjusting for outpatient gynecological clinic visits weakened the association between migrant status and adequacy, suggesting that the type of outpatient clinic visited does impact the odds of receiving adequate emergency care. • Authors conclude by suggesting that barriers to generalized medical out-patient clinics must be decreased so that more migrant patients can access this type of care.	P*

Müller et al.	2020	Germany	Retrospect-ive chart reviews of rescue operations were conducted across four emergency medical services stations in Germany.	Patients with limited German proficiency were served in 2.2% of operations out of 7494 rescue operations.	The study aimed to characterize and compare foreign language patients' medical and socio-demographic attributes versus those of non-foreign language patients.	• Analysis of the patient charts revealed that patients with limited German proficiency were, on average, two decades younger than German patients. • Significantly more limited German proficiency patients presented with adverse gynecological, obstetrical (like birth), and psychiatric problems (like suicide attempts). • Being able to communicate effectively with these vulnerable patients facing acute health concerns like childbirth and suicide attempts was identified as a crucial factor in the delivery of quality healthcare.	P and P*
Kietzmann et al.	2016	Germany	Patients or patient relatives were asked to complete a question-naire assessing different facets of the prehospit-al care imparted.	218 people (57 migrants and 121 non-migrant patients) took part in this study.	The study sought to investigate the effects of sociodemogra phic factors (like patient's gender, migration status, and language skills) and medical provider-related characteristics (professional and emotional/ social competencies) on overall patient satisfaction with prehospital medical care.	• Sociodemographic factors like gender, age, and immigration status surprisingly did not significantly impact the overall satisfaction with prehospital medical care. • Service-related factors like the perceived professional, emotional, and social competencies of the EMS providers did play a significant role in the overall satisfaction that patients reported. • The fact that sociodemographic factors do not impact the satisfaction of care can be explained by the challenges that immigrants and refugees face to integrate into the new society while possessing limited language skills.	P*

Kaya et al.	2021	Turkey	Observational cross-sectional study analyzing patients who were admitted to the Adult Emergency Department.	30,749 patients were admitted to the Adult Emergency Department, out of which 999 were Syrian patients.	The study compared demographic and clinical data between Syrian and Turkish patients.	• The study found that fewer specific diagnoses were achieved for Syrian patients as compared to Turkish patients. • This finding was attributed to linguistic barriers impeding effective communication between Syrian patients and Turkish providers.	P
Garcia et al.	2022	Denmark	Data points and patient information was extracted from the Danish Cardiac Arrest Registry.	A total of 1,801 immigrant patients had out-of-hospital cardiac arrest (OHCA).	Is ethnicity and country of origin associated with an increased risk of OHCA?	• After adjusting for confounding variables, authors uncovered that immigrants from Arab, African, and Eastern countries had a higher risk of OHCA as compared to their Western immigrant counterparts.	P*
Milad-Gohari et al.	2024	Iran	Retrospective analysis of patients who required emergency medical services from two referral hospitals in Iran.	8080 trauma victims and 8,686 patients hospitalized with severe COVID-19 infection. These numbers included Afghani immigrant patients as well as Iranian patients.	The study aimed to uncover the quality of inpatient emergency care provided to Afghani immigrant patients during the COVID-19 pandemic. Does the Afghani immigrant status of a patient impact the length of hospitalization, admittance into ICU, and death rate?	• The study found that for trauma patients, Afghani patients had a significantly higher length of hospitalization. Afghani immigrant patients also had significantly higher odds of admittance to the ICU and a significantly higher hazard ratio for death. • There was no significant difference observed between Afghani and Iranian patients admitted for severe COVID-19 in terms of length of hospitalization, admittances to the ICU, and death rate. • Study suggests that proper care was provided for Afghani patients. However, Afghani patients usually presented with more severe disease rather than Irani patients, accounting for the increased metrics for trauma patients.	P*

Müller et al.	2021	Germany	Retrospective secondary analysis of patient charts from four emergency medical services in Germany.	1,430 pediatric patient calls were recorded (5.1% of all calls made)	The aim was to analyze whether German paramedics could obtain patient information from German-speaking, foreign-language-speaking pediatric patients and their caregivers.	• Out of all the calls analyzed, 3.1% had complete language discordance between the EMS providers and the patient and their caregiver, i.e., the patient and caregivers spoke completely different languages. • Thorough and complete documentation was more likely to be done for German-speaking patients as compared to foreign-language-speaking patients • Documentation of vital information like "events prior to EMS arrival" and "preexisting conditions" was more frequently done for German-speaking patients than foreign-language-speaking patients.	P

Table 1. Summary of the articles included in the Scoping Review.

Thematic Analysis

Multiple articles in the analysis produced common outcomes in concordance with each other. One common finding was the overuse of emergency medical services by immigrants and refugees. Another typical result was the lower mean and median age of migrant patients compared to non-migrant patients. Linguistic barriers to care were the most common impediment mentioned in providing quality healthcare for Asian migrant and refugee patients. To ensure clarity and systematic reporting, two primary themes were identified based on the articles: (1) Factors Influencing Patient Care, and (2) Considerations for Asian Patients. The themes are described below, supported by evidence from the reviewed articles.

Factors Influencing Emergency Medical Care

Multiple sub-themes emerged upon further analysis. These are as follows: Sociodemographic Barriers to Healthcare, Health Illiteracy, Factors Facilitating the Delivery of Healthcare, and Lack of General Healthcare Access.

Sociodemographic Barriers to Healthcare:

These include linguistic discordance, cultural preferences, and mistrust between patient and provider. Stadeli et al. (2023), Vicente et al. (2020), and Hultsjö et al. (2005) interviewed prehospital care providers, and the most common perceived barrier to healthcare delivery was linguistic discordance. When the patient possesses limited proficiency in the native language, it becomes hard for the providers to communicate and build rapport with the patient. The direct consequence is the lack of trust in the provider-patient interaction, where the provider can seem to be direct, cold, and uncaring about the patient's welfare. The patient then inadvertently conceals relevant information from the providers. This action can

lead to detrimental consequences for the patient, such as misdiagnosis or unnecessary high-acuity classification. The indirect consequences were depicted by Müller et al. (2021), wherein lower quality documentation is maintained for migrant patients who do not speak the native language.

Cultural barriers were another common theme. Stadeli et al. (2023), Vicente et al. (2020), and Hultsjö et al. (2005) all showed how specific cultural behaviors that migrant patients have an impact on the care imparted by emergency medical providers. For example, many Asian female patients and patients from religious backgrounds like Islam and Judaism prefer to be examined by a provider of the same gender and do not want to be touched by a provider of the opposite gender. When Hultsjö et al. (2005) interviewed psychiatric emergency providers, they noted that immigrant and refugee patients displayed varied behaviors like not participating in psychiatric ward activities and often not eating the food provided in the ward. Another study (Blakoe et al., 2019) showed that immigrants and refugees often call medical emergency helplines more than once. One reason cited was that patients misunderstood what was said to them initially over the phone and preferred trying cultural remedies before going to the hospital for "Western" allopathic medicine.

Due to these cultural and linguistic barriers, emergency medical providers, frequently introduce their own biases in the medical decision-making process. For example, Stadeli et al. (2023) and Vicente et al. (2020) reported that prehospital providers would often transport immigrant and refugee patients even in the case of a non-emergency, primarily because the patient was not able to communicate their concerns to the provider. It is documented that medical providers usually take the more conservative route for treatment with immigrant and refugee patients, and this involves more patients receiving unnecessary transportation and costly treatments that could have been avoided. Providers do not make the effort to try to understand their patients and hence end up opting for the most conservative, and often costliest, medical option.

Similar to emergency medical providers, patients also perceive differences in language and culture as a barrier to effective communication. As shown by Blakoe et al. (2019), Kaya et al. (2021), and Suazet et al. (2021), when patients have linguistic communication barriers, it becomes hard for them to provide important medical information, hence leading to lower quality healthcare. Ineffective communication further propagates mistrust and non-compliance with provider recommendations and orders.

One interesting result was found by Kietzmann et al. (2016) wherein they uncovered that patients' overall satisfaction with prehospital care was not strongly associated with sociodemographic factors, rather depended upon emergency medical providers' interpersonal skills such as emotional intelligence, warmth, and professionalism. An example of good interpersonal provider skills is elucidated in the study conducted by Vicente et al. (2020) where providers make the effort to include their patients in the formulation of treatment plans and keep the patient up to date with their disposition.

Heath Illiteracy:

Health illiteracy or the lack of knowledge about the healthcare system was another common theme mentioned in the papers. Suazet et al. (2021) and Müller et al. (2020)

demonstrated that immigrants and refugees show an overutilization of emergency services. However, Suazet et al. (2021) also highlighted that this overutilization is not adequate. Lack of knowledge of the healthcare system leads to immigrant and refugee patients coming to the emergency room with lower-acuity diseases often because they do not know where else to go. Immigrant and refugee patients struggle to access general practitioners or family medicine doctors due to unfamiliarity with the stratification of medicine in their host country.

Factors Facilitating the Delivery of Healthcare:

Stadeli et al. (2023) reported that prehospital emergency providers did find the presence of on-scene interpreters beneficial in the delivery of medical care, especially if the on-scene interpreter was a family member. The presence of interpreters allows for the medical provider to establish trust with someone close to the patient, which inadvertently increases the efficacy of the care provided to immigrant and refugee patients.

Lack of General Healthcare Access:

In the analysis, another interesting thread was uncovered: the lack of access to proper general medical care. As shown by Kaya et al. (2021) and Sauzet et al. (2021), a lot of immigrant and refugee patients either did not have proper access to generalized healthcare clinics or were not knowledgeable about the hierarchy of medical services available, leading to the complication of their medical issues. These patients often presented with more severe gynecological, psychiatric, and trauma-related complaints, which could have been mitigated if they had been examined by a practitioner earlier.

Considerations for Asian Patients

This scoping review identifies several unique considerations in providing prehospital emergency medical care for Asian immigrants and refugees and highlights the impact of cultural, linguistic, and systemic factors.

Communication Barriers and Documentation Disparities:

Asian immigrant and refugee patients faced significant communication challenges due to the language discordance with the emergency medical providers. For example, in the Müller et al. (2021) study, for 3.1percent of the analyzed calls, there was complete language discordance between providers and the patient or caregiver, complicating the delivery of quality healthcare. Besides, the documentation done for these patients was very uneven: for instance, "events prior to EMS arrival" and "preexisting conditions" were recorded far more comprehensively for German-speaking than for foreign-language patients (Müller et al., 2021). These findings are supported by studies suggesting that language barriers affect not only communication but also the quality of documentation and clinical outcomes (Flores, 2006).

Cultural Factors and Trust Issues:

Cultural differences create barriers in the interaction between group-oriented immigrant cultures and the individualistic healthcare model of host countries. Asian refugees, especially in psychiatric emergency ICU settings, have shown distrust towards EMS providers and often remained passive or non-cooperative, as shown by Hulstjö et al. (2005). The systemic barriers and language gaps between a patient and their provider further increase mistrust.

The results obtained by Milad-Gohari et al. (2024) shed light on an interesting concept. It was found that Afghani immigrant and refugee patients did not receive significantly different emergency care during the COVID-19 pandemic. This contradicts previous studies that highlight greater healthcare inequities for immigrants seeking emergency care (Davidson et al. 2004).

Clinical Disparities and use of Emergency Services:

In the study undertaken by Milad-Gohari et al. (2024), Afghani trauma patients stayed significantly longer, with higher rates of admission into the ICU, having greater mortality compared to their counterpart groups. On the other side, no disparities were observed between COVID-19-positive Afghani and Iranian patients upon admission, reflecting that care discrepancies were most probably associated with the acuity of the diseases.

Sauzet et al. (2021) showed that first-generation Asian migrants had significantly lower odds of having adequate emergency service utilization (OR = 0.78, p = 0.046) when compared to non-migrants, while second-generation migrants did not display any significant differences. Adjusting for outpatient gynecological clinic visits brought the role of healthcare access to the forefront of determining adequacy in service. Besides, the mistrust of EMS advice and language barriers were implicated in repeated medical helpline calls among immigrants, reflecting systemic gaps in building effective communication and trust (Blakoe et al., 2019).

Discussion

This study sheds light on the challenges and considerations that occur in the delivery of in-hospital and prehospital emergency medical care to immigrant and refugee populations, especially Asian patients. The findings point out how linguistic barriers, cultural differences, and systemic inequities critically influence the quality of emergency medical care. Communication barriers were illustrated in studies from Stadeli et al. (2023) and Vicente et al. (2020), where language discordance negatively impacted the provider-patient relationship. Most of these communication barriers result in incomplete documentation and suboptimal care, as documented by Müller et al. (2021), who reported lower rates of thorough documentation for non-native-speaking patients. These findings affect the quality of care in the immediate situation and jeopardize the continuity of care for these vulnerable groups. Cultural disparities are another major concern when it comes to prehospital care.

The interaction between immigrant cultures and the cultures of the host countries frequently leads to an incongruence in expectations and mistrust, as Vicente et al. (2020) and Hultsjö et al. (2005) reported. For example, some Asian patients may avoid providers of the opposite gender or not directly engage in a treatment plan, which can sometimes be misinterpreted by the provider as noncompliance. As shown by Pillips et al. (2020), Asian patients with low-native language proficiency do not comprehend their providers and are usually in agreement with them out of respect. These further stresses the urgent need for cultural competence training among emergency medical providers to bridge these gaps and foster a more inclusive care environment where patients are aware of their medical condition and can take charge of their treatment. Studies like Kietzmann et al. (2016) also highlight the importance of provider empathy and pro-

fessionalism in bridging these gaps and engendering patient trust. Additionally, systemic issues increase the health disparities faced by immigrant and refugee groups. Sauzet et al. (2021) and Müller et al. (2020) revealed that overutilization of emergency services by these groups is mostly a consequence of the lack of knowledge concerning the healthcare system and an unmet need for primary care. Many immigrant patients opt for emergency services for non-emergency conditions due to ignorance of alternative pathways to care or difficulties experienced in accessing general practitioners. This finding underscores the need for targeted health literacy initiatives to educate immigrant communities about the healthcare system and available resources.

Interestingly, some findings challenge common assumptions about disparities in care. For example, Milad-Gohari et al. (2024) found no significant disparities in the outcomes of COVID-19 care between Afghan immigrant patients and Irani locals during the COVID-19 pandemic, which may suggest that care inequities can be related more to disease acuity rather than systemic bias in some contexts. However, it can also suggest that when the immigrant and host cultures are in alignment (Afghani and Iranian cultures have similar norms, customs, and the official language of Afghanistan is Dari, which is a dialect of Persian) then healthcare inequities are lowered. There is a greater understanding of cultural norms and patient expectations, which leads to a similar standard of care being imparted to both native and immigrant or refugee patients.

Conclusions and Recommendations

In summary, this study emphasizes the crucial challenges faced by immigrant and refugee populations, mainly Asian patients, in receiving equitable and efficient emergency medical care. The combination of language barriers, cultural differences, and systemic inequities stands in the way of providing optimal in-hospital and prehospital care to these vulnerable groups.

Some recommendations to address the challenges discussed above include integrating professional interpreters or culturally competent bilingual providers into the prehospital medical teams, which would help build trust with patients. Karliner et al. (2007) conducted a systematic review that found using professional medical interpreters was associated with positive outcomes in literature. Second, training in cultural competence and unconscious bias is necessary for emergency medical providers to understand and accommodate the unique needs of immigrant and refugee patients (Flores 2005, 2006). Third, increased access to primary care services at the community level among immigrants may alleviate the pressure of overusing emergency services and, as a result, reduce pressure on EMS systems.

The final area involves designing and implementing systematic health literacy programs for immigrant communities that aim to equip patients with knowledge and skills about how best to navigate the healthcare system. Future studies should assess how these interventions will improve outcomes for immigrant patients. By addressing these gaps, researchers and practitioners can collaborate on developing an equitable and effective emergency care system for all.

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Mohammad wrote this paper in the Fall of 2024 for the Asian Studies Capstone course, HUMA 499. His experience working as an Emergency Medical Technician (EMT) in Houston exposed him to the many social determinants of health affecting immigrant and refugee communities. As an aspiring physician, Mohammad is committed to addressing these disparities and advancing equitable patient care for all.

cultural clumsy

Abigail Chiu

I am losing all the things I never had.
YéYe's Mandarin and Korean and
my father's scratchy Shandonghua
Pieces of his mahjong set
and hwatu cards
falling through my fumbling fingers.

Like trying to pick up rice with chopsticks
inevitably a few pieces drop
a few memories
traditions
customs I cannot keep
Like a million rice grains
and my hands cannot carry them all.

Practicing calligraphy on mats
with only water
that stains the mat such a deep black
like my sister's cascade of hair
Falling down
with the strokes of my brush
the characters bleeding into each other.

Picture me
in Jinan
then studying at Táidà
settling in Myeong-dong
Only for some fool to lose it all.

Notes

YéYe: 爺爺; "(paternal) grandfather"

Shandonghua: dialect of Chinese largely spoken in the Shandong province of Northern China

Hwatu: 화투; a Korean card deck commonly used to play a fishing card game called "Go-Stop"

Táidà: 台大; National Taiwan University

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Abigail (she/her) is a freshman at Martel majoring in History and Business with a concentration in Finance and a minor in Creative Writing. She is involved as a senior writer for The Rice Thresher, Senator for Martel, and secretary for Rice Women in Business. In Abigail's free time, she enjoys running the inner loop, reading historical fiction focused on the 20th century, and exploring Houston restaurants. She is interested in how Asian cultural diffusion affects Asian-American identities and legacies.

Semboku City Omoide no Katabunko

Joyce Wu

The STEM Gender Gap in Japan: Examining Women's Agency and Japanese Society

Emma Codianne

ABSTRACT

Compared to other OECD nations, Japanese women's participation in the STEM fields remains low—women accounted for only 16% of researchers in 2018 as opposed to 43% in the United States and 40% in the United Kingdom. It has been assumed, even in the United States, that women would not make good STEM researchers. So should we assume that in Japan, such prejudice is stronger and explains why Japanese women do not pursue STEM careers? While we can infer that cultural, social, and economic factors may be at work behind this phenomenon, we do not have concrete and factually substantiated data. In this project, using physics as a case study, I closely examine why Japanese women, despite their strong academic performance, ultimately do not pursue research careers in this field. Based on the broad survey of the existing study in relevant areas including historical and systematic factors, gender relations, and the societal expectations of women, I investigate the process of how women in Japan choose to (or choose not to) pursue STEM careers using qualitative interviews with eight female Japanese researchers, graduate students, and undergraduate students in order to obtain the first-hand accounts of scientists.

Introduction

Historically, women across the globe have been underrepresented in the fields of science, technology, engineering, and mathematics (STEM). Although the gender gap in STEM varies across different countries, there is a consensus that worldwide, women are the minority in these fields. When examining this phenomenon, many factors come into play—gender roles, societal norms, economic opportunities, historically patriarchal government structures, views on feminism, and others. In recent times, countries have begun implementing measures in education and government to combat the gender imbalance in STEM, and many of the world's leading nations have improved the percentage of women studying, working, or conducting research in the STEM fields.[1] However, one noticeable exception is Japan, and the number of Japanese women in STEM remains low today.

The STEM gender gap in Japan prompts us to explore why this particular nation operating at the forefront of scientific research exhibits its significantly lower women's participation in the STEM fields compared to other countries. This essay seeks to understand the causes of Japan's large STEM gender gap through the lenses of prescribed gender roles, societal expectations of women, and women's own agency. Since little literature exists on Japan's STEM gender gap, this study utilizes both existing analyses on the topic and new human subject research conducted by the author. In these interviews, the focus is on each woman's motivation for pursuing their respective career in STEM, the support they received from family, teachers, spouses (if any), and the overall climate of their university or institution. Data collected from qualitative interviews combined with surveys of women in various sectors of the STEM field, Japan's post-World War II modern-

ization, and history of policy changes related to science and engineering sheds light on the causes of the significantly low percentage of Japanese women participating in STEM. The lack of women role models in STEM, the prevalent family structure and gender roles in Japanese society, and the perception of "masculine" versus "feminine" subjects all contribute to Japan's STEM gender gap—forcing women interested in these fields to use their own agency and constantly strategize while navigating their career paths with limited support and resources.

Literature Review

Quantifying the STEM Gender Gap

The World Economic Forum created a Global Gender Gap Index in 2006 to analyze the gender disparity of various countries based on four subindices: Economic Participation and Opportunity, Educational Attainment, Health and Survival, and Political Empowerment. Overall in 2017, Japan ranked 114th out of 144 countries using the Gender Gap Index, making it the third-worst nation in East Asia and the Pacific in terms of gender disparity.[2] Despite ranking first in Health and Survival, Japan was ranked low in Economic Participation and Opportunity (114th out of 144) and Political Empowerment (123rd out of 144).[3]

The Organization for Economic Cooperation and Development (OECD) is a global forum of 38 countries which collaborates to promote economic growth and democracy, including Japan as a member nation.[4] To understand Japan's gender gap in STEM specifically by looking at a recent OECD report in 2018, Japan was ranked quite low in a study on the number of women graduates in STEM. In particular, only 16% of STEM graduates in Japan were women, which is half of the OECD average of 32%.[5] Japan lags far behind other nations such as Poland at 42%, the United Kingdom at 40%, and the United States at 35%.

Looking at the OECD *Education at a Glance* report for 2018, Japan was ranked last out of all OECD member countries for the share of female new entrants into doctoral programs. The OECD average for the percentage of women representing doctoral degree matriculants was about 45%, while Japan hovered slightly above 30%.[6] This analysis was plotted for three years of data (2005, 2010, 2016), so another noticeable takeaway is that Japan's percentage only increased about 3% over the span of 11 years, while some countries like Lithuania and Korea jumped almost 10%. In addition, Japan was ranked last in the percentage of women teachers at the tertiary education level, just under 30%.[7] Out of all the OECD member countries, Japan demonstrated the lowest share of women teaching at universities, which includes both undergraduate and graduate education.

The *Education at a Glance* report also looks at the economics of people pursuing post-secondary education in member countries. When examining the net financial returns for pursuing tertiary education (i.e. the income people are able to make after earning a bachelor's degree or higher), Japan had a staggering difference from other countries according to gender. A tertiary-educated man in Japan can earn up to 13 times higher than a woman with the same level of education.[8] Not only are there fewer Japanese women pursuing higher education in STEM fields, but women who do earn degrees in these subjects earn significantly less than their male counterparts.

Gender and STEM in Post-World War II Japan

Prior to World War II, Japanese women

interested in the natural sciences and engineering could only study at women's colleges or technical schools. It wasn't until reform in 1945 under the United States' occupation of Japan that some research universities transitioned into co-educational schools where women could also pursue advanced degrees.[9] Despite this policy implementation, not many women went on to achieve education and jobs in STEM-related fields following Japan's defeat in the war. Even during the period of large economic growth in Japan in the 1960s, rapid industrialization caused more women to stay at home and become housewives full-time, while men went off to work.[10] During this time of economic prosperity, the popular slogan in Japan of "women at home and men in the workplace" was reminiscent of the Meiji era phrase of "good wife, wise mother" that historically defined Japanese women's roles in society.

One could argue that the family-oriented values defining Japanese society derived from the feudal system and samurai traditions directly cause the abnormally large gender gap in STEM persisting today. Yet, other factors must be considered, often in combination with the traditional family values held by Japanese society. These factors can be separated into three categories: individual-level factors (motivation, self-efficacy, academic achievement), contextual-level factors (societal values, family background, parental influence), and institutional-level factors (professional role models, institutional support, school curricula). [11]

Regarding individual-level factors, it is essential to examine the motivations and academic interests of young Japanese students as they decide their course of study for the future. This is a key component to understanding the STEM gender gap in Japan specifically, as Japanese high school students are typically required to select an academic "track" for their studies: *rikei* (理系), the natural sciences, or *bunkei* (文系), the social sciences and humanities.[12] It is argued that a gender order in which boys prefer the sciences and girls prefer the humanities arises during primary education in Japan, which affects the choices and career goals of young Japanese women even if they are interested in STEM subjects. If it is subconsciously reinforced every year of school that male students are more likely to succeed in STEM fields compared to female students, the number of women pursuing these majors in post-secondary education is less likely to increase. A 2014 study found that, indeed, self-efficacy of Japanese students has a significant relationship to occupational gender stereotypes.[13] Self-efficacy is defined as a person's belief in their own abilities to successfully perform a task, and according to surveys conducted in this study, female Japanese students reported lower levels of self-efficacy for traditionally male-dominated occupations, with the lowest scores attributed to "physicist," "engineer," and "professional golfer."[14]

One would assume that the women's low self-efficacy scores in male-dominated career paths stems from poor academic performance in STEM-related subjects such as mathematics, physics and chemistry. However, Japanese female students do exhibit strong academic achievement in STEM-related subjects. Even twenty years ago, 15-year-olds in Japan displayed the highest scores in mathematical and scientific literacy in the 2004 OECD *Education at a Glance*.[15] Additionally, in the OECD's 2015 analysis of high school mathematics performance in relation to gender, Japan was reported to have almost a perfect parity index of 1.0, meaning that the proportion of girls achieving

a certain proficiency level in math was equal to the proportion of boys.[16] Internationally speaking, in the 2018 Programme for International Student Assessment (PISA), Japanese girls ranked second in Science and third in Mathematics among 40 participating countries.[17] If academic performance in STEM courses is essentially equivalent between Japanese girls and boys in primary education, other individual-level factors such as motivation and self-efficacy are likely influencing young Japanese women to pursue non-STEM careers.

Contextual-level factors that contribute to the STEM gender gap include the economic structure of Japan and prescribed gender roles that are prevalent in Japanese society. For example, in 1997, only 2.5% of natural sciences professors and 0.4% of engineering professors at Japanese national universities were women.[18] Although these percentages have increased today, it is not by much. Looking at economic factors helps explain the low number of women in high-ranking faculty or STEM research positions in Japan persisting today. Spanning from Japan's period of economic growth to the late 1980s, an "M-shaped curve" best describes the labor patterns of Japanese women.[19] In this curve depicting the number of women entering the workforce in Japan compared to their age, young women work full-time until they become married, quit working while raising their children and taking care of their families, and return to work part-time after their children are grown up—creating an "M" shape. This lack of continuous employment, which is often necessary for researchers in STEM to work their way up to become professors or principal investigators, may help explain the low number of Japanese women in faculty positions.

Contextual and institutional-level factors can compound on one another, resulting in a cycle of Japanese women interested in STEM, but lacking role models or support systems to pursue their careers in these demanding fields. In a recent 2023 survey published by the Tokyo Bureau of Citizens, Culture and Sports, both women and men were asked to fill out questionnaires as part of the Act on Promotion of Women's Participation and Advancement in the Workplace originally passed in 2015. A finding of interest regards the survey question asking "Why are there so few female researchers in Japan?" to which both women and men answered that the top three reasons are: (1) difficulty maintaining work-life balance, (2) the workplace environment, and (3) lack of role models.[20] The potential reason that "employers prefer men over women" actually ranked second-to-last out of the eleven options, answered by both women and men. These survey results point towards issues in Japanese policy and stigmas related to traditional family structures, including maternity leave and child care for women in STEM.

A 2017 study conducted by the Japan Inter-Society Liaison Association Committee for Promoting Equal Participation of Men and Women in Science and Engineering (EPMEWSE) supports the idea that these specific factors may influence the disproportionate number of Japanese women in STEM compared to men. This survey was sent to STEM workers and inquired about gender equality in scientific and technological professions, including a section on "Child and Nursing Cares" for those with children. The results demonstrated that 90% of men leave childcare to their spouses when they must travel for work, while only 50-60% of women can rely on their spouses for help with childcare when traveling.[21] Instead, around 40% of women must ask anoth-

er family member or friend to help take care of their children while on work trips. In the STEM field, and academia in particular, it is important for students and researchers to be able to travel for conferences, workshops, and collaboration meetings—another component of careers in STEM that disproportionately affect women if they are the primary parent caring for their children and families.

For individual, contextual, and institutional-level factors that may heavily influence Japan's STEM gender gap, a top-down approach to address many of these issues must start with initiatives from the Japanese government.

Japanese Policy on Gender Equality in STEM from the late 1990s-Present

The Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) has taken policy initiatives within the last few decades regarding women's participation in the STEM field. Of note is the program titled "Support for best practice for the promotion of female researchers" (Jyosei Kenkyuusha Shein Model Ikusei) in which 3-year financial support is provided for female scientists of childbearing age.[22] Additional policy initiatives include the Super Science High School program launched in 2002, Summer School for Junior and High School Girls established in 2006 for female students interested in science and technology, and the Restart Postdoctoral (RPD) Fellowship that is now available to female researchers in the natural sciences.

Outside of MEXT, other policy advances were developed by collaborations between national academic societies in Japan. Once the Japan Society of Applied Physics (JSAP) decided to address the issue of low women's participation in the field in 2001 by beginning conversations about the subject and forming committee's to further the advancement of women physicists, the Physical Society of Japan (PSJ), and the Chemical Society of Japan (CSJ) soon followed. For the first time in Japan's history, a cross-society network was established through EPMEWSE in 2002.[23]

On paper, the support and establishment of these national policies, committees, and fellowships seems to be a step in the right direction for Japan to close its wide gender gap in the STEM field. However, these initiatives were passed over 20 years ago, and the percentage of Japanese women in STEM has barely increased since then. It is imperative to examine other sources and use additional methods to investigate the staggering gender ratio in Japan's STEM sector—ultimately to fully understand the root causes of the gender gap and create more effective policies.

Methodology

To supplement the limited literature on this essay's subject-matter, human subject research was conducted to gain novel first-hand accounts of Japanese women in STEM. All components of the human subject research were submitted to and approved by the Rice University Institutional Review Board (IRB). The approved study carried out in this essay is listed under the project IRB-FY2024-85.

Qualitative Interviews

As part of this research project, qualitative case studies were utilized to gather anecdotal data of the current atmosphere of the STEM field in Japan, specifically at the post-secondary education and institutional level. To assess the gender gap among Japanese STEM students, researchers, and workers, qualitative interviews were conducted and participants

were able to share their experiences, opinions, and backgrounds on the subject-matter. All questions were open-ended and unbiased in their phrasing, with some sample questions listed below:

1. What area of STEM are you pursuing/did you receive your degree in?
2. How did you become interested in this field?
3. How many other women are in your cohort/division?

Interviews were conducted in English, with the occasional interjections of Japanese when clarification was needed in asking questions or understanding participants' answers. The participants were made aware that interviews would be conducted in English before agreeing to the study and giving their consent.

All interviews in this study lasted between thirty minutes to one hour and were conducted over Zoom while the researcher was at Rice University. Before verbally consenting, participants were informed that their involvement was completely voluntary. Since interviews were conducted over Zoom, participants understood that there was no tangible incentive for their participation besides furthering knowledge on this subject.

Participants

For this study, participants were required to meet the following three criteria:

1. Each participant must identify as a woman.
2. Each participant must be Japanese, or they must have completed a post-secondary educational degree in Japan.
3. Each participant must be pursuing a degree, researching, or working in the STEM field.

Recruitment for this study was conducted using the researcher's network. In addition to students and colleagues that the researcher is familiar with at the University of Tokyo, snowball sampling was also used. Specifically, a recruitment document for participation in this research study was shared among a group of Japanese exchange students visiting to conduct research at Rice University during the Spring 2025 semester. In all situations, interested participants were given all details about the qualitative interviews for this study, and their verbal consent was obtained before officially becoming a participant. To limit the amount of personally-identifiable information collected about the participants, written consent was forgone. Half of the participants are pursuing Physics/Applied Physics majors or graduate studies, while the other half works or studies in a non-Physics STEM field.

The participant list for 8 qualitative interviews conducted in this research study is listed below in Table 1. The participant pool for this study can be broken down into two sections: (1) undergraduate students and (2) researchers in graduate school or industry. Participants 1-4 belong to the former group, while Participants 5-8 belong to the latter. Although the core questions asked during qualitative interviews remained the same across all 8 participants, follow-up questions slightly differed between both of these groups. For group (1), secondary questions for interviewees centered around familial and peer support throughout their decision to pursue STEM in university and beyond. On the other hand, for group (2), additional questions explored the nature of spousal support and family responsibilities for women who have families and work

Participant	Field of Study	Institution	Occupation
1	Physics	Japanese National University	Undergraduate Student
2	Applied Physics	Japanese National University	Undergraduate Student
3	Applied Physics	Japanese Private University	Undergraduate Student
4	Computer Science and Artificial Intelligence	Japanese Women's National University	Undergraduate Student
5	Physics	Japanese National University	Ph.D. Student
6	Medical Devices	Government Institute in Japan	Senior Researcher
7	Cell-Based Therapeutic Products	Government Institute in Japan	Research Section Chief
8	Biological Chemistry	Government Institute in Japan	Division Director

Table 1. Participant list for qualitative interviews.

full-time.

Although this study has a small sample size of 8 participants, these case study results are still informative of the current climate in Japan regarding the STEM gender gap. By interviewing women across different ages and research specializations, one can learn how the environment of academia and scientific research in Japan has changed—if at all—over recent decades and between various subfields of STEM. Interview data collected from 8 participants may not be as widely spread compared to survey data, but it allows Japanese women in STEM who are interested in sharing their experiences to tell their stories and perspectives in detail. Their responses shed light on the current climate of the STEM field in Japan, from the perspective of women who are directly affected by the gender gap and live its reality.

Ethical Considerations

Given the small number of female STEM researchers in Japan, anonymity was prioritized to protect participants from possible criticism or retaliation deriving from this study. As such, names of participants were not asked or recorded by the researcher during qualitative interviews, along with other similar identifying information. In the researcher's notes and this essay, participants are given a number to differentiate them. Throughout the interviews, participants were reminded that their involvement in this study was completely voluntary, and they could ask that any information shared be removed from the researcher's notes at any time—even retroactively.

Case Study Findings and Analysis

This section reveals findings from individual interviews and includes analysis of all the case studies in context of the literature review from Section II.

Participant 1

Participant 1 is a third-year Physics student at a highly-ranked national university in

Japan. According to Participant 1, her physics cohort at university has 80 undergraduate students total, with 16 being women (20%). She commented that this is an uncommonly large percentage, and her professors often mention how this is a high number of women in the physics major compared to the university's average. However, Participant 1 explained that out of the entire faculty of the Department of Physics, there is only 1 woman assistant professor who is also PI of her own lab, and 2-3 women in postdoctoral or research scientists positions.

Participant 1 is specifically interested in condensed matter physics and said that there are only 3-4 women students in her condensed matter classes typically. She thought that it was rare to see women in condensed matter classes, research labs, etc. and that many women undergraduates in the Department of Physics at her university pursue astrophysics instead of pure physics.

In the future, Participant 1 aspires to attend graduate school and achieve at least a Master of Science in Physics, but hopefully will pursue a Ph.D. in Physics. She will apply to graduate programs both at her home institution and schools abroad in the United States. Participant 1 explained that physics graduate schools in the U.S. often have stronger reputations than those in Japan, and she wants to become a professor and researcher in academia in the future, possibly abroad.

When asked about her motivations to pursue physics in college, Participant 1 responded that she first became interested in physics because of her high school physics teacher that inspired her. She explained that because her mother is a pharmacist and her grandfather is a doctor in Japan, her family had expectations that she would also become a doctor or work in the medical field. When Participant 1 decided to study physics instead of medicine as a high school student, she said her parents were supportive of her decision, while her grandparents were not. Additionally, because she was the only female student at her high school wanting to major in physics, many of her friends and teachers told her to pursue another subject—partly because of the existing gender gap in physics.

Participant 2

Participant 2 is a third-year student in Applied Physics at a top-ranked Japanese national university. She chose to major in Applied Physics during the second semester of her sophomore year after deciding between materials engineering and physics. This participant stated that a significant reason why she decided to pursue Applied Physics rather than a different major was because she became friends with an upperclassman who was a woman studying Applied Physics. Participant 2 said that she felt encouraged to also major in Applied Physics after seeing a fellow female student succeed in this concentration of the School of Engineering.

On the topic of Participant 2's motivation for pursuing STEM, she said that she always enjoyed science in high school—especially physics and chemistry. However, she decided to study physics over chemistry because it is less rote memorization. She stated that she did not receive much support from her family over her decision to pursue physics, but her parents were mostly indifferent rather than encouraging her to study a different subject.

According to Participant 2, only 3 out of 55 students in the Applied Physics cohort at her university are women. This is only about 5% of students in her year. Additionally, there

is only 1 female professor in the Department of Applied Physics, and no other female assistant professors or lecturers. As far as she knows, there are other women students in the Faculty of Engineering at her institution, but it's approximately the same low percentage as in Applied Physics.

When asked about any challenges she has faced as a minority in most of her physics classes, Participant 2 explained that the high ratio of men to women is sometimes intimidating. The small number of women in her major brings about complications that her male peers do not have to consider. For example, explaining that she needs to take extra time to rest during menstruation is a difficult topic to bring up to classmates who are mostly men. Also, she personally thinks that women undergraduates in Applied Physics at her university sometimes feel the need to distance themselves from their male friends and peers in the major. Specifically, if their male friends are in relationships, women students do not want to overstep or offend their friends' partners and therefore withdraw from working on physics homework together or sitting with each other in lectures. Losing friends within the small Applied Physics cohort can lead to additional feelings of loneliness for women in the major, amplified by the large gender gap.

In the future, Participant 2 hopes to pursue a Master's degree or Ph.D. in Applied Physics and work at a private company as a researcher. She explains that in these private companies, most of the research staff are male and there is a push to hire more women researchers, which is promising. When asked a follow-up question about initiatives taken by the Japanese government to increase the number of women working in the STEM field, Participant 2 answered that there are not many at the governmental level.

Finally, Participant 2 brought up the nuance that there are even less women studying STEM in college from rural areas. As Participant 2 is from Ehime prefecture in Japan, she is a minority in another sense that most of the students enrolled at her university are from nearby metropolitan areas and large cities, contrasting her rural hometown.

Participant 3

Participant 3 is a third-year student at a Japanese private research university studying Applied Physics. According to her, the Applied Physics Department has 25 faculty members, and only 2 are women. In addition, 17 out of 120 students in her Applied Physics cohort are women, but this is unusual—the gender ratio is normally 5:120 female to male students in this department (about 4%).

Participant 3 first became interested in physics during high school, where she had a great physics teacher. In her senior class, 20 girls from the same high school went on to study STEM at her current undergraduate institution, but she was only 1 of 2 women interested in physics, specifically. The most popular major for female students from her high school was chemistry. When Participant 3 decided she would study physics in university, her father was very supportive of her choice, while her mother was mostly indifferent. Her high school physics teacher also encouraged her decision to pursue physics.

Upon entering university, Participant 1 decided to join the Applied Physics Department rather than just Physics because it is a larger department and has a slightly higher percentage of women students and faculty. Additionally, Participant 3 met two female professors in Applied Physics who were kind and

encouraging, and they acted as role models for her since she aspires to earn a graduate degree in physics in the future. Specifically, Participant 3 plans to enroll in a graduate program abroad in the United States after finishing her undergraduate degree in Japan. Partly because of the gender imbalance in the physics field, she hopes to earn her Ph.D. outside of Japan. The main reason she wants to go to graduate school abroad in the U.S. is because there is more funding available in America and overall a better environment. Following graduate school, Participant 3 aspires to work in postdoctoral research positions in the U.S., on track to becoming a professor in physics. However, her ultimate goal is to be a professor in Japan, returning to her home country and acting as a role model for other Japanese girls interested in physics and the hard sciences.

When asked about the climate of her university in the context of women in STEM, Participant 3 explained that there are actually multiple majors with very high percentages of female students, including Chemistry, Applied Chemistry, and Biology. There is a large number of women in Systems Engineering and Mechanical Engineering as well. On the other hand, there is noticeably low women's participation in majors such as Physics, Mathematics, and Computer Science. She thinks this phenomenon occurs for two reasons: (1) the nature of these classes in university and (2) potential career opportunities. First, pure physics, math, and computer science courses at the college level are computation-heavy, with less reliance on rote memorization like in biology. Second, these subjects have less direct paths to job opportunities and careers right out of college, and often a Master's or Ph.D. degree following undergraduate study are necessary. Participant 3 cites an example of women she knows majoring in Chemistry at her university—they intend to work at cosmetics companies or in the food and drug industry directly after they graduate.

Participant 3 brought up interesting points that she considers as advantages while being a minority in her field. Since there are so few women in her Applied Physics classes, her professors easily recognize her and get to know her better than her peers. She also gets complimented on her work quite frequently and thinks female students in general receive more compliments. However, these advantages are quickly overshadowed by backhanded compliments she receives from fellow students and even professors, such as "You wrote a good lab report for a woman." Additionally, the fact that she is complimented for basic report writing skills and test scores makes it seem like her professors expect her to be behind her male peers in terms of competence from the beginning.

Participant 4

Participant 4 is a fourth-year student at a national women's university in Japan studying Computer Science (CS) and Artificial Intelligence (AI). Since her undergraduate institution is a women's university, Participant 4 is in a unique position of having all-women peers in her Computer Science major. This university consists of about 40 students per year, so the number of women in CS is low because of the small matriculation size. Despite being a women's university, almost all of the CS faculty at Participant 4's college are male, so her classes are often very small and taught by men. An important aspect of the Computer Science field is hackathons—events where engineering students collaborate on coding and programming projects in a short amount of

time, typically 24 hours. In Japan, hackathons are heavily male-dominated and over 80% of participants are male, so Participant 4 works as a volunteer organizing hackathons for women and non-binary people in CS. She also works in a non-profit organization called Waffle that provides programming education to women in Japan.[24] Specifically, this NPO provides boot camps for Japanese high school girls in rural areas to gain exposure to computer science and programming.

Participant 4 explained that she participates in this type of volunteering and outreach because the gender gap in STEM and Computer Science has affected her. She thinks part of the reason behind this large gender imbalance in Japan is due to the fact that there have been no large-scale movements by women's organizations. so the public is not heavily involved in the issue. Additionally, she sees that on social media platforms like X (formerly Twitter), there are negative connotations on feminism held by some Japanese people, and biases about women are often spread. Participant 4 is mostly shielded from the direct effects of the gender gap in CS because she is at a women's university, but she said that her female friends at other public universities in Japan are only 1 or maybe 2 women out of 40 students in CS classes. This small percentage is impossible to ignore, and these women studying CS experience feelings of isolation when male peers often don't communicate or interact with them.

Participant 4 believes that the low number of Japanese women in the STEM fields partially stems from the decision of pursuing science versus humanities subjects that all high school students are required to make before they graduate. She said many female students choose to pursue the humanities instead of the sciences because of familial or societal influences. In particular, a woman's parents greatly impact her choice of study in higher education. Since many parents do not want to see their daughter face additional challenges in scientific fields where they will be a minority, many push their daughters to study the humanities instead. Participant 4's mother gave her the same argument when she said she was interested in studying Computer Science—her mother said if she chose to join a scientific faculty in university, she will be faced with many difficulties because she is a woman.

Participant 4 illuminated that there are some resources for high school girls interested in STEM in Japan, such as the Yamada Shintaro D & I Foundation. This foundation aims to "[create] a society with fewer women giving up on studying in STEM fields due to various social contexts" by providing scholarships to female high school students aspiring to study in STEM fields at technical schools and universities.[25] Participant 4 thinks that having more financial support and opportunities for women in STEM like the Yamada Shintaro D & I Foundation will be incredibly helpful for Japan, but there is a noticeable difference between progressive change in urban areas like Tokyo compared to rural parts of Japan. In rural areas, it is sometimes thought that women should not attend university and instead get married and care for a family, since being mothers makes women "happiest."

Participant 5

Participant 5 is a fifth-year Physics Ph.D. student at a top-ranked Japanese national university. Although she is ethnically Japanese, she was raised in Shanghai, China and completed her undergraduate degree in the United States. As such, her five years as a graduate student at her current institution is the most ex-

tended period of time she has lived in Japan.

In her research group—which consists of 2 principal investigators (PIs), 2 research scientists, 2 postdoctoral fellows, 3 doctoral students, and 7 Master's students—she is the only woman. She also said that in her cohort of physics graduate students, she is one of 3 women out of 40 students total. In the following cohorts after her, there has been a year in which there was a single woman in a class of matriculating physics graduate students.

Overall, Participant 5 has had a good experience in her graduate studies in Japan and feels like she is an integral part of her research group, especially as the most senior doctoral student. She has never felt isolated by her group despite being the only woman, and she is connected to her PIs, especially her primary Ph.D. advisor. However, coming from college in the United States to a Ph.D. program in Japan, she was surprised by the staggeringly low number of women graduate students and faculty in the Department of Physics at her institution. This feeling was amplified because her current university is one of the most renowned institutions for higher education in physics—in the last 20 years, there have been 3 Nobel Prize winners in Physics just from this school.

Participant 5 is unmarried, so spousal support of her Ph.D. and future goals of becoming a researcher and professor in particle physics is not being considered. However, when asked about her family's support of her studies, she explained that both of her parents encouraged her interest in physics, and she has a twin sister who is also pursuing a Ph.D. in physics in America.

Participant 6

Participant 6 is a researcher at a STEM-related national research institute in Japan. She works in the Division of Medical Devices and combines electrical engineering, chemistry, and biology to design implantable devices.

Participant 6 attended an all-girls high school when she was a child, and 60% of her class chose to study *bunkei,* humanities and social sciences, while 40% chose *rikei*, the sciences. Despite this uneven split, Participant 6 enjoyed physics and mathematics and decided to pursue the natural sciences pathway. As an undergraduate, she wanted to major in physics, but her parents advised her that there are no jobs in physics or math. Because it is difficult to find employment in these types of STEM fields, many women choose to become doctors or pharmacists instead, since the job market is better in healthcare in Japan.

In both her undergraduate and graduate studies, Participant 6 did not have many female professors. However, at her place of employment, there are many women researchers, doctors, scientists, and division/section heads, so Participant 6 does not think about the gender gap in STEM too much in her current situation. In Japan today, Participant 6 thinks that the number of women in STEM is increasing because there is a wider variety of jobs available, specifically programming and computer science opportunities that women can pursue at home on their own schedules. This flexibility is useful for women who also take care of their families but would still like to work at least part-time.

Participant 7

Participant 7 is currently an employee of the same governmental institute in Japan as Participant 6, working as a researcher in the Section of Tissue-Engineered Products within the Division of Cell-Based Therapeutic Products. As a child, Participant 7 was always in-

terested in science, and she later pursued the science and mathematics track in high school. Afterwards, she entered university and earned both a Bachelor's degree and Master's degree in Nutrition and Food Science at the same institution. She then worked at a Japanese pharmaceutical company for 3 years, conducting research for antifungal and anticancer drug development. During this time, she met her husband and got married while working at the pharmaceutical company.

After getting married, Participant 7 returned to her alma mater and pursued a doctoral degree. She conducted research on lipid biochemistry and earned a Ph.D. in Biochemistry within 3 years. Right after graduating, she had her first child and later had a second child while working as a postdoctoral research associate at the same university. From a postdoc, she became an assistant professor and worked at the university for 2 more years. Following this position, she joined a Japanese national STEM institute as a researcher investigating stem cells and tissue-engineered products, and she has worked here for over 20 years now.

While recounting her motivation for pursuing STEM and her academic journey, Participant 7 emphasized that she followed a very uncommon timeline for Japanese women—even those interested in STEM. Her husband was very supportive of her returning to university to earn her Ph.D. after they got married, and Participant 7 this is an extremely rare case for Japanese women to go back to school after starting a new family. According to her, women often have to give up pursuing higher education for family reasons, including getting married or having children.

Even more rare for women in Japan is going back to school for advanced degrees or working full-time after having children, explained Participant 7. She said that she is an unusual case in that she finished her Ph.D. while pregnant and accepted a job as an assistant professor after having two children. To her, raising a family was important and something she had always wanted, but she would not give up her job and love for research at the same time.

Participant 8

Participant 8 is a senior-level employee and researcher in the Division of Biological Chemistry and Biologicals at the same national research institution as Participants 6 and 7. She is also a Visiting Professor at two national universities in Japan within the Graduate School of Pharmaceutical Sciences.

Participant 8 enjoyed science-related topics as a child, including mathematics, physics, and chemistry, and disliked the subjects of English and social studies. As such, she chose the scientific track in high school and went to university for Pharmaceutical Science. She earned both a Bachelor's and a Master's degree at the same institution, which took 4 years and 2 years, respectively. She then went on to work at a pharmaceutical company for 3 years, and later returned to school to achieve her doctorate in Pharmaceutical Science, which took another 3 years as she wrote her dissertation.

When asked about her professors throughout her academic career, Participant 8 recounted that most of the faculty members she encountered were male. Even though Pharmaceutical Science is closely related to biology, chemistry, and the medical field—which typically have a higher share of women students and researchers—almost all of her professors in university were men. Participant 8 thinks this is simply because of Japan's culture

and societal expectations, since the natural sciences are often seen as "men's fields" and historically, have never been female-dominated. This notion is changing little by little in Japan, but very gradually, according to her.

Additionally, Participant 8 explained that the gender ratios among the different STEM fields also vary. For example, medical-related sectors typically have more women students, employees (doctors, nurses, etc.), and researchers compared to the "pure" sciences like physics or mathematics. This is due to the various qualifications needed for each specialization in STEM, in addition to career opportunities in Japan. Participant 8 was interested in pure physics and chemistry as a high school student, but she ultimately decided to pursue pharmacy because it gave both her and her parents peace of mind that she would be successful in the future and able to find a job.

Despite the gender gap present among professors and faculty in her academic career, Participant 8 explained that she has never had an uncomfortable experience at her current place of employment solely because of her gender. At her research institution in particular, there are many female employees and women in leadership positions, and fortunately, that is the norm for this specific institution.

Discussion

Among the undergraduate students interviewed, there was a general consensus that even within Japan's top-ranked universities, the gender ratio in physics and other STEM disciplines, such as computer science, is very imbalanced. Most institutions only have a few female faculty members, including tenured, associate, and assistant professors. A few of the students interviewed mentioned that they chose their intended majors because they met fellow women in the department—either upperclassmen students or professors—who encouraged them to pursue this course of study. Role models or mentors in the field seem to be a driving force behind Japanese women pursuing STEM, and the lack thereof may contribute to the low participation of women in Japan's STEM field. This is supported by the survey conducted by the Tokyo Bureau of Citizens, Culture and Sports from Section II, in which both women and men voted that the third-most likely reason for the low number of female researchers in Japan is due to a lack of role models.

In a similar manner, familial support of young Japanese girls interested in STEM greatly affects their intended major in university and future career decisions. When choosing between *rikei* and *bunkei* tracks in high school, it seems that girls are more likely to choose the faculty of sciences if at least one of her parents or relatives also studied or worked in STEM. However, across all 8 participants in this study, multiple women recounted how their parents advised them against pursuing "pure" sciences like physics or mathematics because they would not be able to find good jobs in those fields. A degree more applicable to society, such as pharmaceutical science or medicine, would be more beneficial and economical according to the interviewees' parents. When asked about their high school peers, Participants 1-4 answered that many of their friends elected to pursue careers in the humanities that were encouraged by their parents. Whether this is directly due to prescribed gender roles in Japanese society, economic considerations, genuine interest in the humanities, or a combination of these factors is unknown, but according to the qualitative interviews and the study "Gender Disparities in Academic Performance and Motivation in STEM Subjects in

Japan" by Isa et. al., the majority of Japanese high school girls choose *bunkei* over *rikei* even today.

In a university setting, the participants' responses shed light on how they perceive gender relations in the lab, classrooms, and research groups. In particular, Participants 1-5 all currently live, work, and study in a university environment in which they are the gender minority. Despite this, all 5 of these women seem very driven, ambitious, and intellectually-stimulated in their respective fields of study. They did not share any anecdotes of experiences where they were outwardly put down by male peers or professors, instead mentioning that the large gender gap in their majors was most intimidating. For example, these participants have not been excluded from research opportunities or lab work based on responses in the interviews. In reality, the undergraduate participants (Participants 1-4) believe their professors want them to succeed in research and their future endeavors in Master's or Ph.D. programs. Since Japanese universities typically don't require STEM students to join a research lab until their fourth year, Participants 1-4 have not experienced hands-on research yet, but many of them explained they already have plans for which professor to work with and what types of projects they would like to pursue.

In the case of Participant 5 (a graduate student in Physics), her perception of women's gender roles in her research group seems no different from the men's. She attends the same group meetings, works the same amount of hours per day on campus, and interacts with the same thesis advisor. Regarding endeavors directly related to her work and research, she is treated equally as her male counterparts. However, being the only woman in a research group of at least 15 people affects her in a social context. In her interview, she said that many of the male Ph.D. students in her group are very close friends, while she does not have the same relationships with fellow doctoral students. This is because she is both the oldest and only fifth-year graduate student, and because she is the sole woman of the group. So although Participant 5 is an essential, well-respected researcher and senior graduate student in her group, she experiences a sense of alienation that her male peers and mentors might not consider or notice. This is reminiscent of the undergraduate student responses from Participants 1-4, as no one mentioned instances in which they were directly discriminated against for being women. Rather, lacking a sense of community for women in STEM and being surrounded by all men in classes, research, and labs can contribute to feelings of loneliness and isolation that bring about additional challenges for women in these fields.

Looking at the responses from Participant 2 and Participants 6-8, there is a distinction between Japanese women working in STEM research in academia versus industry. Across the board, interviewees recounted that they engaged with very few female professors, lecturers, or postdocs throughout their academic careers, but perhaps within national research institutions and private companies, more women are able to successfully work as scientific researchers and engineers. Participant 2 hopes to work for a private company in Japan following the completion of her Master's degree because it is known that companies are trying to increase the number of women employees and researchers. Additionally, the 3 participants from a Japanese national research institution all answered that they experience no discrimination based on their gen-

der, and that it is common for women to rise to leadership positions as principal investigators of research and division directors.

The discussion of future career aspirations and current jobs among all 8 participants leads to insights on how Japanese women in STEM exercise their agency in relation to their gender. As seen from the qualitative interviews, it is not so clear cut for Japanese girls interested in the natural sciences to pursue their passions in higher education and immediately find a job. Instead, high school girls pursuing STEM are in constant negotiation between their academic interests, economic stability in the future, and influences from their family. All of these factors must be taken into consideration at such a young age when girls are deciding what path of study to follow in high school and what to major in at university. Although they encounter limitations from their families, difficulties as minorities in their fields, and anxieties about employment opportunities, women in STEM must exercise their agency to be successful in current Japanese society. This means making the decision to pursue studies in pharmaceutical sciences over the "pure" natural sciences, or planning to achieve a Ph.D. abroad rather than in Japan. Given the existing climate of the STEM field in Japan, women have to constantly strategize to excel in their pursuits, taking into account the disadvantages of certain areas of study and working in male-dominated fields.

In this state of constant negotiation and strategy that Japanese women seem to experience while pursuing STEM, their relationship with their gender may also evolve. For example, Participant 3 explained in her interview how her minority status as a woman in Applied Physics has actually helped her in making connections with her professors and research mentor, as she is more easily recognizable and stands out among her male peers. In cases like this, women can use their gender to their advantage to succeed in STEM fields where the odds are against them. On the other hand, Japanese women who have become successful in their fields—such as Participants 6-8 who all work at a renowned national research institute—no longer think about their gender and the overall gender gap in STEM. Once Participants 6-8 reached the stage in their careers where they were established researchers, surrounded by other women in leadership roles at their institution, they did not directly experience the effects of a disproportionate gender ratio as they did in university.

Finally, results from qualitative interviews point towards additional factors that contribute to the STEM gender gap, such as socioeconomic status and the contrast between urban and rural areas in Japan. Although not specifically examined in this study, socioeconomic factors likely play a role in Japanese women's decisions to pursue higher education and careers in the STEM field. For "pure" natural sciences subjects—including physics, mathematics, and chemistry—students must often pursue Master's or Ph.D. degrees to succeed in their field and find high-paying jobs. Japanese women hailing from lower socioeconomic backgrounds may not have the freedom to choose careers in these fields, especially since graduate degrees must be paid for and take many years to complete. There is not a similar stipend system in Japan like those in American doctoral programs. In addition, Participants 2 and 4 both mentioned nuances within the examination of the STEM gender gap regarding urban versus rural parts of Japan. The majority of high-ranking national universities and private research institutions are located in large,

metropolitan cities of Japan. Young women from rural areas of Japan who are interested in pursuing degrees in STEM face an additional challenge of adapting to a new urban environment in university. Dealing with homesickness, the financial effects of moving cities, and stress over adjusting to a new lifestyle are more barriers that women from rural areas encounter if they choose to study STEM-related majors in college.

Conclusion

A combination of extensive literature searches and qualitative interviews with 8 Japanese women in STEM reveals insights into the many factors contributing to the wide gender gap in Japan's STEM field. Among the interview participants, it can be concluded that many of these women were influenced to pursue their academic interests in STEM because of a role model or supporter in their family. The lack of women professors, scientists, engineers, and researchers who can act as role models for young Japanese girls may significantly contribute to the low participation of women in STEM today. Similarly, Japanese girls are more likely to pursue STEM careers if they have someone in their life supporting and encouraging them—whether it be a teacher who cultivates a passion for learning, a parent who pushes their daughter to continue their studies in the field they desire, or a friend who believes that they can succeed in STEM.

Overall, interview participants are driven and persevering in their career goals and aspirations, demonstrating that Japanese women are more than capable of excelling in the STEM field. The staggering gender gap in these fields is simply intimidating to many young Japanese girls interested in the sciences, and it does not help that primary and secondary schools in Japan can subconsciously, or even overtly, reinforce that natural sciences are "boys' subjects," while humanities and social sciences are "girls' subjects." Although the Japanese government and MEXT in particular have introduced policy changes to combat this stigma and encourage gender equality in STEM over the last few decades, the lack of effective initiatives has caused the number of Japanese women in STEM to remain stagnant. It is necessary for the national government to promote initiatives supporting equity and diversity in STEM early on, even at the primary school level, thereby changing the mindset of new generations to advocate that science, technology, engineering, and mathematics are subjects for everyone to study.

Within the limitations of modern Japanese society and academic fields, women in STEM do exercise their own agency to succeed in their careers, research, and maintaining work-life balance. Japanese women in STEM are in constant negotiation with passion versus stability, and sometimes they face the decision of pursuing their true academic interests or electing to follow a career path that is more viable in society. Although this use of agency and strategy to succeed in an environment dominated by men is demonstrated by women in STEM around the world, women in Japan experience this phenomenon with higher severity. Since there are so few Japanese women holding leadership positions, faculty tenureships, and research appointments in STEM, current female students must maneuver throughout their careers with limited resources, role models, and support systems. Using their own agency, Japanese women might choose to stray from their original academic passions in exchange for stable job opportunities, or they might even look outside of Japan

for higher education and training. This creates a vicious cycle in which there are still so few Japanese women in STEM for female students to look up to, and passivity about the issue continues to be the norm for Japanese society.

Given these findings, one must also consider the limitations of this study. This research conducted qualitative interviews of 8 Japanese women, so the data collected can only be considered as case studies and not generalizations of the Japanese population. Additionally, since all interviews were conducted online over Zoom, some aspects of human subject research have been lost, including interpreting body language and communication without connectivity issues. Since the researcher interacted with the participants solely over a Zoom call, there may have been aspects of their answers that they did not feel comfortable fully sharing with a stranger.

In future work, additional interviews should be conducted with women in a wide array of fields, such as healthcare workers (doctors, nurses, etc.), engineers, mathematicians, and chemists to gain a more comprehensive understanding of Japan's gender gap in STEM. To extend out of the realm of case studies, one could also create an anonymous survey with revised versions of interview questions to be sent to women students in STEM at major universities in Japan. This could provide more standardized data and insight from current women studying STEM at the university level without the additional implications of meeting face-to-face with an interviewer. A survey could also reach a much wider participant pool and provide data in a setting with less ethical considerations for the researcher. Overall, this study has begun investigating the complex reasons for significant gender disparity in Japan's STEM fields, but there is much to continue researching—socioeconomic considerations, differences in urban versus rural areas of Japan, and creating more effective governmental policies supporting women.

Appendix

Interview questions for students:

1. What is your major and year in university?
2. How did you decide what to study in university?
3. What is the gender ratio like among students and professors in STEM at your university?
4. What are your future career goals? Do you want to pursue a PhD/Master's degree?
5. Have your family, friends, and teachers been supportive of your goals?
6. What is the atmosphere like in your major/field at university?

Interview questions for professional researchers/scientists:

1. What is your job role/research focus?
2. Could you describe your path from high school to where you are now as a researcher? 3. Were you always interested in this scientific field?
4. What is your educational background?
5. How was your experience in university and higher education?
6. What is the gender ratio like at your current place of employment?
7. What are your thoughts on the gender gap in Japan's STEM fields?

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Emma originally wrote this article in Fall 2024 for ASIA 495: Asian Studies Research Seminar. As a double major in Physics and Asian Studies, she was inspired by her physics research experience at the University of Tokyo during the summer of 2023 to pursue this study of the STEM gender gap in Japan, a unique intersection of her two fields of interest. She would like to thank the following people and funding sources for supporting her throughout her research: Dr. Sonia Ryang, Dr. Naoko Ozaki, the RASR editorial board, and the Chao Scholars Research Funding from the Chao Center for Asian Studies at Rice University.

On meeting icarus in heaven

Ashley Deng

He spoke in twos, in before and afters, in things easy to understand. He was ordinary, he explains, but his father was not. He was a child when they were imprisoned, not yet tall enough to see past the walls of the cage he called home. The ocean was warm, the sky was cold. There was freedom, and there was the rest. The bare bones of a story that has since become legend. He assumes I know it, and I do.

He smiles when I ask him about the wings, laughs when I call him a tragedy. What tragedy? he teases. Your death, I answer. I do not bring up Apollo; I do not talk about hubris. He looks at me, eyes flashing; what tragedy? I fuss with my fingers, try to make him understand. You died, I explain. My voice is a slippery thing, my tongue suddenly a stone. It is hard to look at him, his hair haloed in the sunlight, limbs light and hollow. Here, he looks so alive. You fell, I repeat. The truth is easy enough.

My words swing like a scythe; he shifts in his seat. He nods once; somehow it doesn't feel like a victory. Still, I hold onto it, tight-knuckled and red-faced. Questions bubble behind my lips – did you know, how did it feel, why did you do it, do you miss it, would you do it again if you had the chance. I stuff them into
my mouth and run my tongue over my teeth, refusing to let them slip. He looks at me, truly looks, lacing bird-like fingers together and leaning forward. You know, (and he says this slowly, methodically, like he has all the time in the world to grow old) I've never thought of myself as a tragedy. I was just a boy, and I got what I wanted. I was never sad about it.

I don't answer; I don't know what to say. I tell him about my family instead, how Tianjin somehow trailed us across an ocean. In the light, I imagine wings weighing down his shoulders, the only part of him that isn't delicate. He knows something about freedom; he understands the urgency of youth. I'm in college, I say. I'm becoming the doctor my mom wants me to be. It's not so bad; I'm making her proud. Then the future looms ahead, solid as a deadline, and I think I am drowning

The sun slips out of the sky and melts into the windowsill. I do not have enough time to become everything I thought I could be.

I'm terrified I'll look back one day disappointed, I tell him. The fear is so potent I can grab it with both hands. I don't want to spend the rest of my years looking for a break in the current. The truth cuts me open like a tangerine — dizzy, I lean back, hold my breath. The scent curls around me, heavy as steam, familiar as home. Still, when the memory comes, it does so without warning.

Tianjin, China. My last time visiting my family. My grandmother's circular dinner table, the smell of fish soup, the familiar click of Mandarin and chopsticks melting into an easy rhythm. 铁饭碗.

I'd been younger then. What's that? I'd asked.

The answer came quick and biting: a secure job, a safe career, a good life. One with no risk. Relatives around the table chimed in, nodding like goldfish. No risk. My grandmother's voice, heavy with authority: Nothing like those American dreams. In time, you will learn to settle. This is how to live, Ashley; dreaming is a waste of time. I looked to my mother, back then my safety net for a culture I could only claim in parts. She raised her eyebrows; what's not to understand, daughter? This, then, is how I learned to be Chinese American. How I learned to fear flying; how I learned to dread falling. How I learned the word freedom in two languages and wound up terrified of both.

Back then, I thought I'd wash it off me somehow. That someday I'd peel the Chinese off of my body — like a snake shedding its skin — to reveal something whole and untainted within, a savior of my own right. That I'd go back to Tianjin and let the Mandarin roll off my back at the dinner table, that I'd choose quiet rebellion, glorious in its silence, and never look back; say here, see, this is what I was afraid of: clinging to something that will surrender me at every turn. Staying Chinese in America, fingertips smoking, grasping at the ground in fear of open sky.

I thought, if I wanted it badly enough, I could burn through the word Chinese American and just be the second. The simpler. The Icarian. I was younger then. Now, the truth is easy enough.

The question leaves me before I can stop it, hanging in the air, serious in its silence. Why did you do it? Icarus pauses; I do not take it back. I need him to answer. How could you stand to fly, knowing you would fall? How did you forgive yourself for all the things you did not become? The silence drags on; I let it go. And when he answers, his voice is the same as my own.

I couldn't bear not living. Sure, I fell, I died, it hurt. But like I said – there was freedom, and there was the rest. It was worth it.

Notes

Tiě fànwǎn: 铁饭碗; "iron rice bowl," also used to describe a stable job

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Lily Harvey

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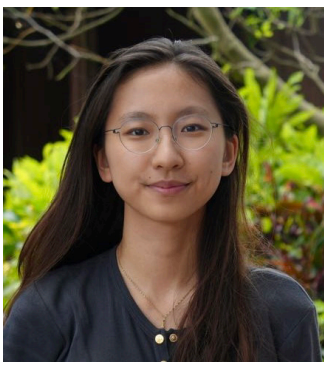

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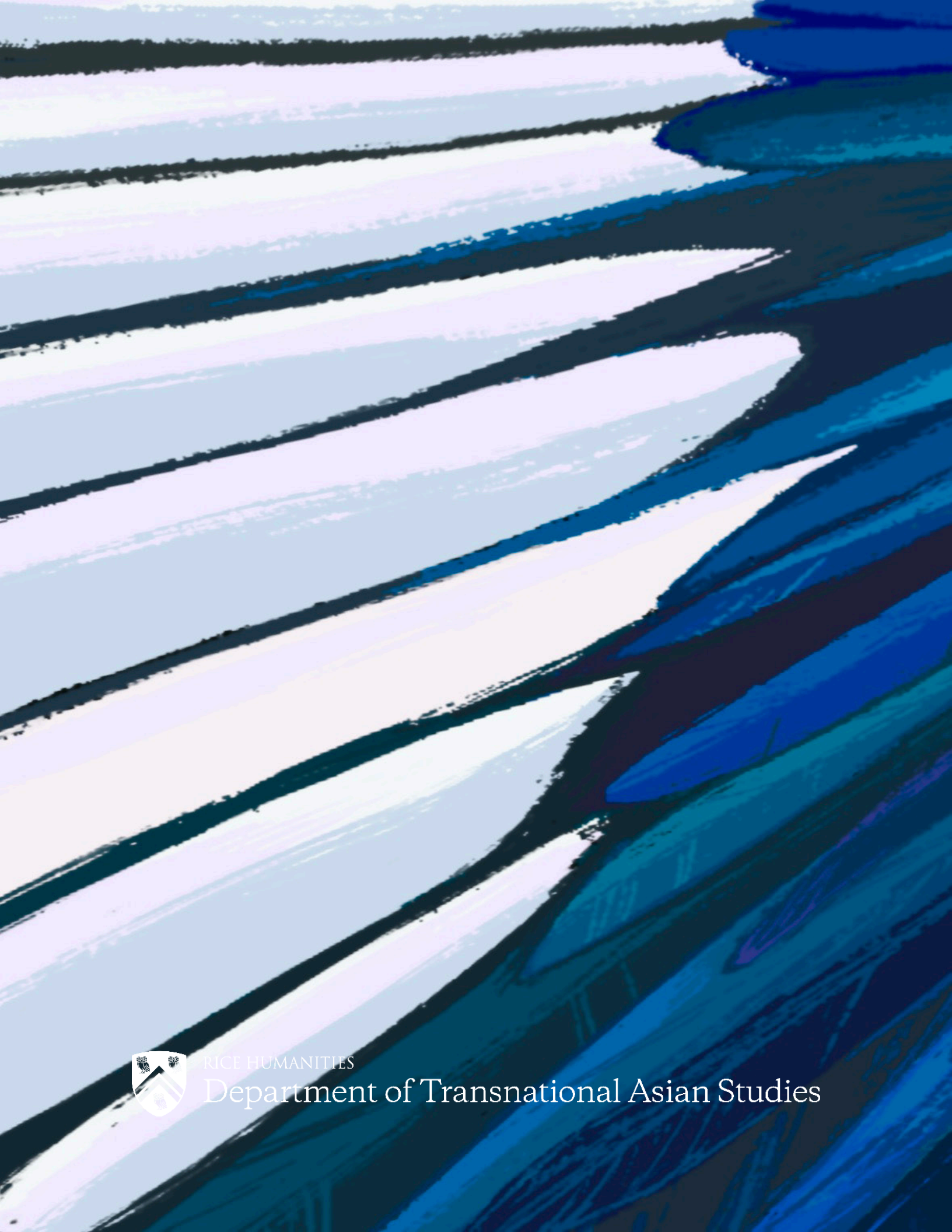
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