

# Turning Japanese

The Globalization of Japanese Language and Concepts

**Daniel Grunebaum**

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## Abstract

In August 1945, Japan lay a smoldering ruin, its military defeated, and great cities bombed to oblivion. Yet within one generation, the nation was the world's number two economy, and within two, a global soft power. This thesis investigates the process whereby Japan became a cultural giant, what it means for the world, for the West in particular, and for Japan itself. For the world, Japan can provide signals on what the economic rise of other Asian nations portends in terms of their own soft power. At a time when Asia represents two-thirds of global economic growth and Asians are the United States' fastest growing immigrant group, the stakes are high. For Asians, opportunities arise for governments to leverage soft power, and for culture industries to increase their reach worldwide. For Westerners, opportunities come in the form of enriched experiences in every sector from food to film, accompanied by risks of misunderstanding as Western societies turn inward and Western culture becomes less preeminent. With these shifts in mind, this thesis uses language as a vector to explore Japanese soft power, probing how publicly available textual data can be mined to quantify and visualize shifting cultural influence, a technique it is hoped can provide insight not only into the question of Asian soft power, but into the larger problem of how to understand cultural interactions.

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Website: <https://dangrunebaum.github.io/thesis/turning-japanese/>

GitHub: <https://github.com/dangrunebaum/thesis>

## Introduction

At the current moment in 2020, it seems as soon as one Japanese boom ends another rises to take its place. Whether it's the billion-dollar Pokémon Go franchise, the ramen noodle explosion, or author Marie Kondo's bestselling "spark joy" revolution, culture emanating from this once-insular island nation has the world in its spell.

As a journalist and translator who lived in Japan for two decades, observing trending Japanese culture has been fascinating and often surprising. It's a phenomenon Douglas McGray chronicled in the influential 2002 article "Japan's Gross National Cool." "Japan is reinventing superpower," he noted. "From pop music to consumer electronics, architecture to fashion, and animation to cuisine, Japan looks more like a cultural superpower today than it did in the 1980s, when it was an economic one."<sup>1</sup>

The evidence for Japan's soft power is all around us and easy to describe, but it's hard to grasp the process whereby Japan exerts its influence. By quantifying and visualizing the globalization of Japanese culture at a time when Asian economies and cultures play a growing role in Westerners' lives, I hope Westerners will better understand and be better

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<sup>1</sup> McGray, "Japan's Gross National Cool," 44.

prepared for the growing influence of Asia in what many believe to be the oncoming Asian century<sup>2</sup>.

Quantifying and visualizing the movement of “fuzzy” culture through time and geosocial space presents diverse challenges. But the web has not only driven cultural interplay to light speed, it also provides new digital data points for understanding these interactions. In the process of creating a generation of Japanophiles, vectors like search, social media and streaming offer mountains of data to sift through for signs of interest in Japanese trends—signals that can be quantified and visualized.

Despite the numerous quantifiable data streams the internet provides as the dominant platform for cultural content, however, quantifying culture remains problematic. First, we must define culture, break it down into its constituent parts, and subject each to analysis. Given the scale of this task, it makes sense for the purposes of this project to focus on only one aspect of culture.

I will focus on language as a vector for understanding Japan’s emergent global soft power for two reasons. First, language *literally* speaks to all aspects of culture, serving as a proxy for culture in its entirety. And second, language best tells the history of Japan’s globalization from its first interactions with the West up to the present moment. This

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<sup>2</sup> Parag Khanna, *The Future Is Asian*, 1.

project will thus try to understand how Japanese culture has and continues to impact the world, and how its growing soft power affects Japan itself.

Attempting to visualize language is by definition a reductionist undertaking. Still, I believe that quantifying and visualizing Japanese loanwords' diffusion into English can help us grasp the rise of one Asian culture at a time when the "Asianization"<sup>3</sup> of the world, and the growth of the Asian-American population, is gathering speed.

A large body of thought and literature on Japanese culture, trade and political science provides a context for understanding the nation's globalization. For Japanese language expertise, I will utilize linguist Schun Doi's dissertation *Japanese Loanwords in the Oxford English Dictionary and in the English version of Kämpfer's the History of Japan*. Recent materials on quantitative approaches to language and the humanities will also be consulted, as will literature on visualization methods for language.

This project will employ several methods and corpora to understand Japan's globalization through the transmission of Japanese language into English. Using a chronological approach, I will first investigate the *Oxford English Dictionary's* corpus of Japanese loanwords. The OED is the definitive record of the English language, offering an unparalleled view of Japan's first interchanges with the West up to the present day. Specifically, I will compare the semantic categories of Japanese loanwords in the OED to

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<sup>3</sup> Ibid., 8.

try to understand in which spheres Japanese culture has most impacted the West, and how this has changed over time. I will also attempt to understand how perceptions of Japan have shifted by analyzing what kind of words find greatest usage in the OED. Finally, I will compare Japanese loanwords in the OED with other Asian languages to visualize Japan's inordinate impact on the West.

Due to the subjective nature of the OED's word selection and its paucity of recent data, I will employ two further corpora, while still relying on it to provide a reference point for understanding subsequent textual datasets. First, I will utilize *The New York Times*' API to examine the frequency of key Japanese loanwords in the United States' newspaper of record. Second, I will employ Google Trends to analyze the globalization of Japanese concepts since the advent of the web. As Google Trends provides information on the geographic frequency of searches, I will use Trends data to try to locate where in the English-speaking world Japanese concepts first find currency, and the process whereby they spread.

Finally, by comparing different sets of keywords, I will assess to what extent traditional conceptions of Japan are being supplanted by contemporary conceptions of 'Cool Japan' in the global conversation and consider how Japanese soft power has helped launch a tourism boom and benefitted Japan geopolitically.



## The Globalization of Japanese in Historical Context

### The Roots of Japanese Soft Power—Japanese Loanwords through the Postwar Period

Before examining the globalization of Japanese culture and language quantitatively, it is important to review Japan's premodern to contemporary history, as the culture established during Japan's feudal era profoundly informs its current soft power. The current wave of Japanophilia called Cool Japan, it will be seen, has deep roots in the past. In order to understand exactly how past waves of Japanophilia inform the present, the *Oxford English Dictionary* can serve as a mirror for the West's formative, colonial era understanding of premodern Japan. Loanwords that entered English from the 16th-19th centuries and turn up in the OED reflect both popular interest in Japan sparked by pioneering travelers' accounts, and formative exposure to Japanese culture gained through 19th century World Expos in Europe and the United States.

Along with only a few other Asian nations, Japan was able to avoid colonization in the premodern period. The Shogunate that ruled from Tokyo for more than two centuries imposed a policy of isolationism in the 17<sup>th</sup> and 18<sup>th</sup> centuries<sup>4</sup>, executing Christian

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<sup>4</sup> Ian Buruma, *Inventing Japan 1853-1964*, 14.

missionaries and limiting foreign contact mainly to small trading posts. The Dutch were the only merchants permitted to trade, banned to a tiny island off Nagasaki.

Isolationism allowed Japan to develop distinctive art, music, and literature, a culture that thrived in the Edo Era (1603-1868). United and at peace under the Tokugawa Shogunate, Japanese samurai studied haiku poetry and arts including the tea ceremony. With prosperity, urbanites in Edo (Tokyo), Osaka, Kyoto and other cities developed their own art forms including kabuki theater, haiku poetry and ukiyo-e woodblock prints.

When Japan finally submitted to the greater firepower of American Commodore Matthew Perry's Black Ships and agreed to trade in 1853, its sophisticated culture proved irresistible to Westerners. At the great 1867 international exposition in Paris, for example, audiences were deeply impressed by Edo culture forms such as ukiyo-e. Hokusai's legendary *Great Wave Off Kanagawa* wowed Europeans and influenced painters like Van Gogh—it continues to reverberate as an internet meme to this day.<sup>5</sup>

Ukiyo-e and kabuki enticed Westerners with visions of noble samurai and coquettish geisha and remain enduring symbols of Japan in the Western imagination. But Japan, called *Cipangu* in its first depiction on a Western map in 1453, had already exerted a mystique that led to the awareness of Japanese concepts even during its age of isolationism.

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<sup>5</sup> Nancy E Green. [\*Encountering the Floating World: Ukiyo-e and the West\*](#)

Accounts of Japan were heard in the West from traders and missionaries in the 1500s and 1600s, and a couple of dozen loanwords had entered the OED including the terms *shogun* (OED 1615) and *soy* (OED 1696). But it wasn't until the 1700s that Japan began to enter the wider Western consciousness.

Engelbert Kämpfer was a doctor born in what is now Germany in 1651. Joining the Dutch East India Company, he was dispatched to the Dutch trading house at Nagasaki's Dejima between 1690-1692<sup>6</sup>. Kämpfer traveled to Edo and wrote a series of manuscripts that became *the History of Japan*. These came to be purchased by Sir Hans Sloane, founder of the British Museum, who in 1727 commissioned the translation of them into English. *The History of Japan* thus became for centuries the main source of Western knowledge about Japan. It contributed 74 words to the *Oxford English Dictionary's* current 530 Japanese loanwords, including in an extensive 1727 update concepts related to rank, such as *samurai* for noblemen, language like *katakana*, one of Japan's alphabets, and others associated with religion or culture such as *Zen*.

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<sup>6</sup> Schun Doi, *Japanese Loanwords in the Oxford English Dictionary and in the English version of Kämpfer's the History of Japan*, 56.

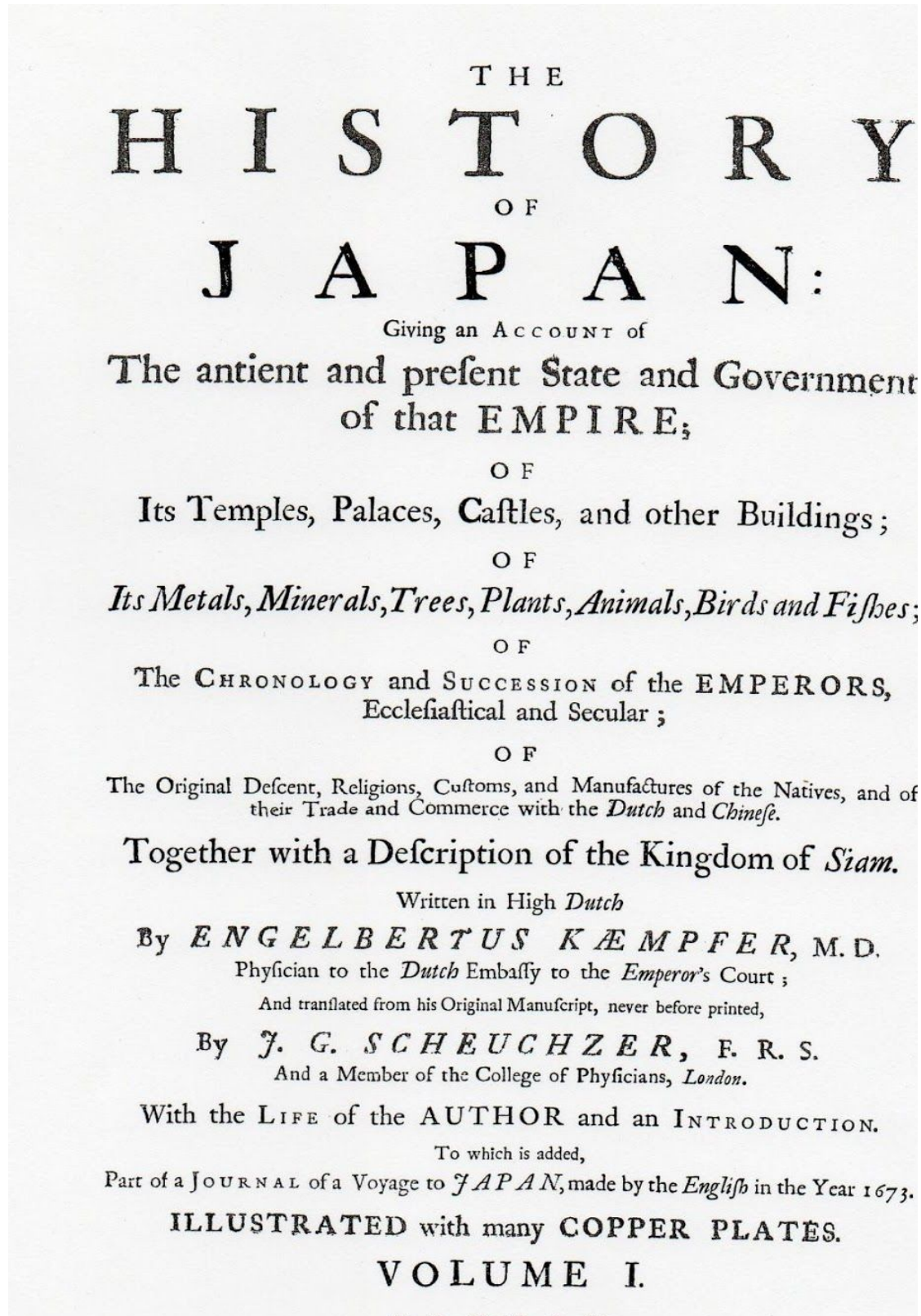


Figure 1. A photograph of the title page of the *History of Japan*.

Well before the 1868 Meiji Revolution brought the end of isolationism, then, Japan had already established itself in the Western mind. This process will be examined through quantitative approaches to the *Oxford English Dictionary* to be presented in the methodology section of this paper, and in the visualizations to accompany it.

With Japan's opening and the Meiji Revolution came a flood of trade and interchange, with Western merchants, missionaries and officials establishing outposts in cities like Yokohama and Kobe. Japan's new regime also sent delegations to the West to study scientific and commercial techniques. These interactions brought a flood of new Japanese loanwords into English—some of them, such as *tycoon*, are so familiar we hardly recognize them as Japanese.

Toward the end of the 19<sup>th</sup> and start of the 20<sup>th</sup> centuries, Japan's food culture, martial arts, fashion, and visual and performing arts became more widely known to the West, bringing into the OED loanwords like *sumo* (1864), *kimono* (1886) *kabuki* (1899) and *wasabi* (1903), as well as uniquely Japanese concepts such as *hara-kiri* (1856)—ritual suicide by disembowelment. “The dramatic increase was a result of the Treaty of Kanagawa in 1854, which ended her segregation from other nations,” says Doi<sup>7</sup>. “Thus, communication between Japan and the West dramatically increased; and consequently, the frequency of borrowing increased as well in the need to convey the meanings of the cultures of the other party.”

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<sup>7</sup> Ibid., 33.

The presence of numerous Westerners in Japan, as well as Japan's expansionism of the late 19<sup>th</sup> to mid 20<sup>th</sup> centuries, brought the nation into the Western discourse at the colloquial (my own great-great aunt visited Japan in the 1920s), scholarly and journalistic levels. These interchanges generated volumes of textual data that open further avenues for quantitative analysis, including for this study *The New York Times* API dating to 1851.

World War Two left surprisingly little mark on the OED compared to *The New York Times*, but the ensuing occupation of Japan by US troops brought numerous Japanese loanwords into the dictionary. We can see the occupation's effect not only in terms such as *pan-pan* (OED 1949 "Japanese woman consorting with foreign men, esp. with Allied soldiers"), but in numerous additions related to food and martial arts, and the first inklings of Japan's soft power ascent to come, *manga* (OED 1950).

Japan's economic miracle of the 1960s to 1980s brought into the Western conversation loanwords like *Nikkei* (OED 1970) for Japan's leading stock index, *meishi* (OED 1971) for business card, and concepts including *kaizen* (OED 1985 "A Japanese business philosophy of continuous improvement"). Trade, with Japanese exports up from 105 JPY billion in 1963 to a record 7,682 JPY billion in 2008<sup>8</sup>, continues to offer evidence of a preference for Japanese brands (and their cultural cache) among Americans and others. But it was in the post-Bubble 1990s that Japan truly came of age as a global soft power.

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<sup>8</sup> [Trading Economics](#), Japan Ministry of Finance

## Cool Japan, Japanese Loanwords and the Internet

I arrived in Japan in 1989, just as Japan's economic bubble began to deflate. Like many Western college graduates, I came to study Japanese, a skill I thought would be useful amid a spate of titles such as Harvard Professor Ezra Vogel's *Japan as Number One: Lessons for America*. Also like many American arrivals, my meager knowledge of the country was gleaned from materials such as monster flicks and Kurosawa films, D.T. Suzuki's *An Introduction to Zen Buddhism*, and some brief college studies.

Yet within a decade or two, young Westerners were stepping off the plane at Narita armed with conversant Japanese, eager to imbibe the wonders of the land they'd experienced in pirate anime 'scanlations' streamed on YouTube. "I have started seeing a lot more copies of *My Neighbor Totoro* in American friends' living rooms, also seeing more *Akira* posters on college campuses, and more Japanese or Japanese-influenced titles of all types on American television," writes Roland Kelts in *Japanamerica*<sup>9</sup>.

"References to Japan as having a cool or attractive culture are not likely to surprise anyone in twenty-first-century America."

What many historians call a third wave of Japanophilia<sup>10</sup> (Kelts 2006, p.5) began with food, anime and manga, literature and J-pop, but it doesn't stop there. In the OED, the

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<sup>9</sup> Roland Kelts, *Japanamerica*, 5.

<sup>10</sup> Ibid.

fascination with contemporary Japan is seen in new additions ranging from electronic communications culture (*emoji*, OED 1997) to pornography (*hentai*, OED 1990). While older loanwords often named a specifically Japanese object (*ramen*), recent entrants represent a more profound level of interaction between Japan and the world.

In a 2017 article I wrote for *The Japan Times*, Stanford University Associate Professor of Japanese Literature Indra Levy said of the coinage of the term *konmari* in English to refer to the Marie Kondo tidying bestsellers, these words show, “the broadening and deepening of Japan’s international influence on ‘high popular culture,’ by which I mean the vocabulary of daily life — eating, emailing or texting, and consuming — shared by countries around the world that enjoy large middle-class populations.”<sup>11</sup> Author of *From Impressionism to Anime: Japan as Fantasy and Fan Cult in the Mind of the West*, Susan J. Napier, expands on this phenomenon in the world of anime fandom, calling it “a transcultural hybrid...that spans not only geographic cultures but also the cultures of the ‘real’ versus the ‘simulated’ or the ‘virtual.’” (Napier, 2008, p.211)

From food, anime and manga onto Japanese-styled kanji tattoos, it’s difficult to underestimate Japan’s cache even among the wider public. “Japanese companies no longer need to localize their pop culture products, at least not to the same extent they have in the past, to appeal to American audiences,” writes Kelts. “Even the manga that is

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<sup>11</sup> Daniel Grunebaum, “[Japanese is affecting the English lexicon in new ways](#),” Japan Times, 2017.



translated into English today retains certain Japanese phrases and writing in the native characters—undecipherable and illegible to most U.S. readers, but still considered cool.”<sup>12</sup>

Through online vectors ranging from search to YouTube to Twitter, Instagram, countless blogs and specialized anime streaming websites such as Crunchyroll, the internet has turbocharged the process of communicating Japan’s culture to the world—while providing data points for visualization. But first, it’s important to consider the role of Japanese soft power in the context of its Asian neighbors.

### Japanese Globalization in an Asian Context

This thesis is mainly concerned with Japan’s impact on the West, but it’s essential to remember that Japan’s economic and cultural kinship with and concomitant impact on Asia is far greater. Japanese scholars popularized a “flying geese”<sup>13</sup> paradigm that posits a (somewhat self-serving) historical pattern of economic growth in developing countries, with Japan itself the lead goose. With this in mind, I briefly consider Japan’s relationship with its Asian neighbors, and the extent to which Japan’s emergence as a cultural power serves as a model for them.

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<sup>12</sup> Kelts, 24.

<sup>13</sup> Akamatsu K., *Journal of Developing Economies*, 3-25.

In 2019, Japan was listed Asia's number one soft power in *The Soft Power 30*, an annual ranking created by Portland communications with support from Facebook and the USC Center on Public Diplomacy (CPD).<sup>14</sup> Japan also leaped from fourteenth to sixth in the culture sub-index of Portland's global rankings. According to Harvard professor Joseph Nye's famous definition, soft power means that rather than using coercion, "national aims can be pushed via a mix of culture, values, and foreign policies—all of which can persuade others to act in ways that advance a given country's own interests."<sup>15</sup> Despite its decline from the world's number two to number three economy, Japan is doing quite well on the global stage, a status highlighted when it was awarded the 2020 Summer Olympics.

Japan is now a magnet for Westerners—but even more so for the Asian tourists, students and immigrants who have crowded into it since the 2011 Fukushima disaster. By 2016, Japan was home to 2.5 million immigrants, a record number, and one million foreign workers, mostly from nearby Asian countries.<sup>16</sup> These immigrants, workers and their children are a growing market for Japanese intellectual property, whether they remain in Japan or return home. It's thus important to ask: Will Asian countries follow Japan's rise as a cultural colossus in the way that its economic ascent provided the model for them?

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<sup>14</sup> McGlory, *The Soft Power 30*, 67.

<sup>15</sup> Ibid., 70.

<sup>16</sup> Khanna, 135.

While Japan's island geography and centuries of isolation endowed it with a rich and unique culture, its Asian neighbors also possess multifaceted cultures of their own. The global success of India's Bollywood, Korea's K-pop, for example, and the rise of Chinese digital platforms like TikTok and contemporary art titans like Ai Wei Wei argue that the world has only begun to appreciate the diverse contemporary cultures of Asia's varied societies and five billion people.

The economic growth and integration of Asia via physical transport, digital links and industrial supply chain establish a strong platform for its cultural expansion. A shared history of using kanji characters, and religious/philosophical/ethical ties to Buddhism and Confucianism also bind in particular the societies of Japan, Korea and China. Additionally, there are arguably psychosocial commonalities among Asians that draw them to each other's cultures. The Asian majority of the global population, says social psychologist Richard Nisbett, share distinct cognitive processes, in particular East Asians, who do not draw sharp lines between subject and context.<sup>17</sup> As a substrate to its pop culture and high culture, Japan's communitarian society, order and cleanliness also help explain why the nation is held in high esteem across the continent, particularly in contrast to the disorder Asians now see in the United States. These commonalities point to the likelihood of increased resonance for similar-minded Asian nations' cultures. And in fact the "return of Greater Asia"<sup>18</sup> is creating new cohesions as Asians rediscover shared values and rebuild ancient connective infrastructures linking their nations together in a continent

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<sup>17</sup> Ibid., 357.

<sup>18</sup> Ibid., 80.

emerging from centuries of colonialism. While Asian countries are at different stages of development, then, the likelihood of further cultural globalization for a raft of Asian nations (beyond their already ubiquitous food culture) both within and beyond Asia seems high.

## Language as a Vector for Understanding Culture

### Theories of Cultural Anthropology, Sociolinguistics and Diffusion

It is often said that “language is culture and culture is language.” Pioneering University of California, Berkeley cultural anthropologist A.L.Krober posited their origins as having been simultaneous and codependent: “Culture, then, began when speech was present, and from then on, the enrichment of either means the further development of the other.”<sup>19</sup>

This project follows this hypothesis that language can best serve as a proxy for culture, and specifically that the worldwide dissemination of the Japanese language is evidence for the globalization of Japanese culture. Though a natural assumption, there is a body of investigation in cultural anthropology and sociolinguistics that grew from the model of *cultural diffusion*, conceptualized by German ethnologist Leo Frobenius.<sup>20</sup>

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<sup>19</sup> Asmat Nabi, *Language And Culture*, 91.

<sup>20</sup> Leo Frobenius, *Der westafrikanische Kulturkreis*. *Petermanns Mitteilungen*, 43-44.

In the process of cultural diffusion, components of culture including customs, religions, technologies and languages etc. are communicated from one culture to another. Cultural diffusion can happen via *direct diffusion*, when two cultures intermingle through trade, marriage or war; *forced diffusion*, when one culture subjugates another, or *indirect diffusion*, when culture is mediated through a third party or technologies such as books and the internet.

The field of sociolinguistics studies cultural diffusion as it pertains to the diffusion of languages: “It is generally taken for granted that language, as a *concomitant of culture*, can spread. Schoolchildren learn of the spread of Greek culture and language throughout the Mediterranean world, of the spread of Roman influence and Latin throughout the Roman Empire, and of the spread of Islam as a new world religion that accompanied the spread of the language of the Koran, Arabic.”<sup>21</sup>

Despite Japan’s centuries of isolation, all three forms of language diffusion have occurred. Direct diffusion both to Asia and the West has taken place through trade, marriage, Japanese immigration to the West, and wars with China, Russia and World War Two. It also currently takes place in the form of an explosion of Japanese language study worldwide, a modality in which “the agency of speakers—causing language spread while

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21 Ofelia García, *Language Spread And Its Study in the Twenty-First Century*, *The Oxford Handbook of Applied Linguistics*, 398.

appropriating and penetrating it with their own intentions [e.g. “*Umami* Burger”] and social styles—is foregrounded.”<sup>22</sup>

Forced diffusion happened particularly in countries that Japan subjected to colonization and the forced study of Japanese, including parts of China (the puppet state Manchukuo), Taiwan and Korea in the early 20<sup>th</sup> century. Indirect diffusion occurred first through books and all manner of correspondence from the commercial to the diplomatic and personal, then film, television and anime. More recently the internet has accelerated the process literally to light speed. Streaming sites like Crunchyroll and Netflix as well as growth in the Chinese market more than tripled anime exports between 2014-18 to a record some 9b USD.<sup>23</sup>

The mechanics whereby a loanword shifts from one language to another is a process linguists call naturalization. While a fuzzy process, in terms of Japanese loanwords Doi defines it as a spectrum from totally foreign to fully incorporated: “In the earliest stage of the process, the loanwords are paraphrased. Then, attributive usage appears as a transitional phase; and finally , the loanwords acquire productivity and thence make their way into the FULLY INCORPORATED status. These three stages here, again, are not a sequence of sudden jumps and the boundaries are somewhat fuzzy; and thus, drawing distinct lines between the stages is impossible.”

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<sup>22</sup> Ibid.

<sup>23</sup> Gavin J. Blair, [2017 Anime Industry Revenue Hits a Record \\$19 Billion](#), Hollywood Reporter, 2018.

As we shall see moving forward, the evidence for the accelerating diffusion of Japanese culture via the process of language naturalization is abundant in the textual datasets we will subject to quantitative analysis and visualization, the OED, *The New York Times*, and Google Search.

### Problems Using Language as a Proxy for Culture

Before considering quantitative approaches, it's worth briefly considering some of the potential pitfalls of using language as a lens for understanding the globalization of Japanese culture.

One salient issue is that, while this project relies on textual data, the effects of direct diffusion through spoken language should also not be underestimated: "Diffusion puts individual speakers of one dialect in regular contact with speakers of another," writes Allan Bell in *The Guidebook to Sociolinguistics*. "Changes pass from one speaker who has adopted an innovation to another who follows suit."<sup>24</sup>

Unfortunately, it's impossible to know to what extent the globalization of Japanese took place through colloquial interchange in premodern times, and what the early textual data

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<sup>24</sup> Allen Bell, *The Guidebook to Sociolinguistics*, 39.

from the OED might be missing in reflecting these interchanges. The issue is also germane to the present, when conversational modes of communication, ranging from cell phone texting to social media, have come to dominate discourse between Japanese and foreigners in the era of the web.

Another potential pitfall in focusing on language is that it misses the profound impact of Japan's rich visual culture on the West. Take, for instance, the previously mentioned examples of Hiroshige's *Great Wave Off Kanagawa*, or the outsized roles of anime and contemporary "Super Flat" artists like Takashi Murakami in the current wave of Japanophilia. Both in the past and present, globalized Japanese culture has had a strong visual component. Much is lost, for instance, in reducing the visual cornucopia that is anime to the simple word *anime*.

One can also challenge the notion that "language is culture and culture is language." Aspects of culture can be communicated into new languages, while retaining much of their essence. Christianity, for example, is alive and well despite its having been translated from Aramaic to Greek, Latin, and then English and other modern languages.

Still, in this thesis we approach Japanese not just as one aspect of culture, but as representing a civilization. When viewed from this perspective, language seems indispensable to culture. For example, civilizations, such as those of indigenous peoples colonized by Europeans, have historically lost their cultures and become subsumed by



the more powerful society, hence efforts by groups such as native Hawaiians to revive their cultures by restoring their languages. The Jewish people provide a good counterexample of a society that retained its culture through a tradition of reading the Old Testament in Hebrew. It seems no coincidence that the “People of the Book” were singularly able to retain their culture during thousands of years of diaspora and persecution.

## Methodology: Quantitative and Visual Approaches to Japanese Loanwords

“Today, all over the world, millions of people are seeing history in a new way: through the digital eyes of a robot.”<sup>25</sup>

### Culturomics and Quantitative Linguistics: Word Frequency and Semantic Distribution

This thesis and accompanying visualizations employ quantitative methods to analyze and visualize texts, as a means for understanding the development of Japanese soft power. It’s thus important to briefly investigate theories and practices that support quantitative approaches to culture and language.

One of the first motivations for this project was the above quoted 2013 book, *Uncharted: big data as a lens on human culture*. In it, Harvard researchers Erez Aiden and Jean-Baptiste Michel chronicle their quest to persuade Google to open its Books library to research. The quest ultimately succeeded in producing Google’s Ngram Viewer tool, while helping to pioneer a new they call “culturomics,”<sup>26</sup> a data-driven approach to the humanities they hope will “transform the social sciences, and renegotiate the relationship between the world of commerce and the ivory tower.”<sup>27</sup>

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<sup>25</sup> E. Aiden and J. B. Michel, *Uncharted: big data as a lens on human culture*, 12.

<sup>26</sup> *Ibid.*, 34.

<sup>27</sup> *Ibid.*, 16.

On reading the book, I soon saw the value of Ngram Viewer in charting Japanese loanwords and culture. In the article "From 'samurai' to 'Hello Kitty,' search data show how the world's view of Japan has changed,"<sup>28</sup> I showed how the frequency in Google Books of references to traditional terms like *samurai* rose dramatically after Japan's 1854 opening, but then fell in relative frequency compared to Cool Japan terms such as *anime* in recent years.

My approach was based on Aiden and Michel's use of frequency as a measure to determine a word's currency in the English lexicon. This approach is a strategy that Doi also employs in his thesis on Japanese loanwords in the *Oxford English Dictionary*, tying the rise in Japanese loanwords to increasing interchange between Japan and the West: "There is a dramatic increase of borrowing in the later half of the 19th century; in all likelihood this was a consequence of Japan's opening her ports to the West and ending her segregation from other nations. After the ratification of the Treaty of Kanagawa in 1854, contact between Japan and Western countries dramatically increased; and consequently, the rate of borrowing increased as well."<sup>29</sup>

Other linguists extend this line of thinking by linking word frequency not just to cultural interchange, but also to the shifting importance of *concepts*. "It can be expected," write

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<sup>28</sup> Grunebaum, *The Japan Times*.

<sup>29</sup> Doi, 88.

Tuzzi and Köhler, “that the frequency behaviour of ‘words’ over time, i.e. in such chronological corpora, mirror the changing relevance of concepts which are in the focus of the given discourse.”<sup>30</sup>

Our earliest available corpus, *The Oxford English Dictionary*, shows the first Japanese word *bonze* (Buddhist priest) entering the English lexicon in 1577. The rise from 0 Japanese loanwords to the current 530 words thus embodies the entrance not just of Japanese words, but of Japanese ideas, into the Western mind.

Some perspective is in order. While Asian and other nations subject to European and American powers during colonialism and imperialism undoubtedly contributed loanwords to European languages, the reverse was far more often the case. The Japanese language, for instance, is said to have some 7000 English loanwords.<sup>31</sup> Furthermore, the 530 Japanese loanwords in the *OED* pale against its overall size, constituting just 0.0009 percent of its some 600,000 total words.

While finding fault with dictionaries’ lack of *infrequent* words, Aiden and Michel’s investigation confirmed the basic reliability of dictionaries when it comes to the most *frequent* words: “Dictionaries are completely perfect—they literally contain 100 percent of all words—as long as those words are more frequent than one in a million.”<sup>32</sup> Only 37 of

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<sup>30</sup> Arjuna Tuzzi and Reihard Köhler, “Tracing the History of Words,” 203.

<sup>31</sup> Fengping Gao, “Japanese: A Heavily Culture-Laden Language.”

<sup>32</sup> Aiden and Michel, 102.

the 530 Japanese loanwords in the OED appear in its least frequent band 1. While none appear in the most frequent bands 7-8, many appear in the 3-5 range. To give a sense of their usage, words in range 4, for example, remain according to the OED recognizable to English speakers and unproblematically used in journalism.<sup>33</sup>

Finally, the use of frequency in the NYT and Google Search also raises certain issues. Principally, it is often impossible to know the intentions of the writer or search user, and the context in which Japanese loanwords are written or searched for. A Google user who searches for 'samurai', for example, could be interested not in Japanese culture, but 'samurai bonds.' The same could be said of an appearance of the word 'samurai' in *The New York Times*.

In addition to absolute word frequency in corpora, I extended my investigation into the frequency of Japanese loanwords of specific *semantic* categories. The aim was to show what aspects of Japan have found most resonance in the Western conversation, with the assumption that the frequency of a given semantic category's words reflects the appeal of words of that category. In this light, Doi says that, "Observing the distributions of the Japanese loanwords leads to the conclusion that the fields deeply associated with Japanese culture have the most words listed."<sup>34</sup>

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<sup>33</sup> [Key to frequency](#), Oxford English Dictionary, accessed April 17, 2020.

<sup>34</sup> Doi, 87.

The ramifications of this can be seen through the concept of semantic alignment, under which phylogenetic distances between languages correlate to semantic distance, a phenomenon recently demonstrated in an innovative study by computational linguists Thompson, Roberts and Lupyan which holds that closely related languages have closely related semantic structures, while distant languages have less well correlated semantic structures.<sup>35</sup> The fact that Japanese concepts like *Zen*, coming from a language so phylogenetically distant as Japanese is from English, have penetrated English so deeply, suggests a special resonance for certain aspects of Japanese culture, a resonance that only seems to be accelerating in the form of modern Japanese loanwords like *kawaii* (OED 1965 “Cute, esp. in a manner considered characteristic of Japanese popular culture; charming, darling; ostentatiously adorable.”).

It should be observed that semantic groupings such as those created by Doi and other linguists are inevitably subject to the viewpoint of their creator, a shortcoming they readily grant.<sup>36</sup> There is also a question of the quality of human-generated semantics versus recent forms of Semantic Artificial Intelligence. Such questions are beyond the purview of this inquiry, and I believe there is sufficient information encoded and consistency to Doi’s semantic categories to enable conclusions about what their frequency in the *OED* means in terms of the transmission of Japanese concepts into English.

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<sup>35</sup> Bill Thompson, Sean Roberts and Gary Lupyan. “Quantifying Semantic Alignment Across Languages.”

<sup>36</sup> Doi, 34.

Having briefly treated some of the literature on the theory and practice of quantitative linguistics, I will now explain the methods I use to visualize Japanese loanwords in the OED, NYT and Google Search, as well as the narrative structure of the website in which they are embedded to tell the story of Japan's globalization.

### Visualizing Japanese Loanwords in the *Oxford English Dictionary*

#### *Design, Layout and Typography*

A primary goal of this project is to encourage website users to engage *directly* with Japanese loanwords themselves. Toward this end, I created a three-column design that centers the 100 most frequent Japanese loanwords in the *Oxford English Dictionary* in a chronological D3.js text visualization in the center column of the website. A D3.js-driven timeline of key historical events linked to Japan's globalization provides context in the left column. In the right column, users step through the OED, NYT and Google Trends, interacting with a series of visualizations powered by D3.js and Vue.js that employ Bertinian retinal variables and animated maps to provide insights into the globalization of Japanese loanwords over five centuries of interaction between Japan and the English-speaking West.

Stylistically, I utilized a semantically resonant color scheme, Adobe's 東京物語 (Tokyo Story), which evokes the colors of the ukiyoe-prints popular with Westerners since the 1800s. For the title page, I extended the historic theme with a serif font, while the main

site utilizes a crisply modern sans serif font. The overarching goal of the design of “Turning Japanese” is to provide users with an engaging historical narrative in a clean, esthetically evocative format that offers a coherent sequence of data-driven insights.

### *Visualizing Loanwords: Text in the Design Space*

The visualization of the OED in “Turning Japanese” is inspired by a rich history of tabular and text visualizations dating from Babylonian multiplication tables to cutting-edge text visualization websites including the Text Visualization Browser<sup>37</sup>, a compendium of hundreds of text-data visualizations. I opted to visualize only the OED’s most frequent 100 loanwords, a decision based on the likelihood of users’ familiarity with the words (many Japanese loanwords in the OED are obsolete even in Japanese!), spatial design considerations and the need to reduce cognitive load.

Loanword	Frequency	Citation	Meaning	Japanese	Stage	Category
bonze	3	1588	A Buddhist clergyman	法師	Stage: 3	religion
tatami	4	1614	A rush-covered straw mat floor-covering in Japan	畳	Stage: 2	housing
shogun	4	1615	Hereditary commander of feudal Japan	將軍	Stage: 3	jobs & status
furo	3	1615	A steam bath or bathhouse	風呂	Stage: none	housing

Figure 2. A sample of rows from the 100 Most Frequent Words CSV.

The columnar OED loanword visualization based on a CSV file encodes the words themselves using preattentive attributes. The first of these is position: on the OED’s frequency scale of 1-8, the most frequent Japanese loanwords fall in bands 3-5. I have

<sup>37</sup> <https://textvis.lnu.se/>



thus placed the words on a horizontal axis with bands 3, 4 and 5 indicated by subtle background lines.

Other preattentive attributes are encoded in the typography. Based on research by Strobel et al, and extended by Brath, some of the most effective preattentive typographic attributes are color, font size, and font weight.<sup>38</sup> In “Turning Japanese,” font color encodes loanword categories (arts & crafts, etc.) , allowing users to quickly cross-reference the loanwords’ color with a Top Ten Categories of Japanese Loanwords bubble chart atop the right-hand Visualization column.

My goal in utilizing font size and weight was to emphasize the exponential nature of the OED’s frequency scale. Thus, to complement the positional differentiation, I set the words to three font sizes (15px, 20px, 25px), and three font weights (500, 700, 900). Position, font size and weight are all computed with D3.js; the use of the Montserrat font’s many weights allows for sequential font-weight encoding.

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<sup>38</sup> Richard Brath, “Text in Visualization: Extending the Visualization Design Space”

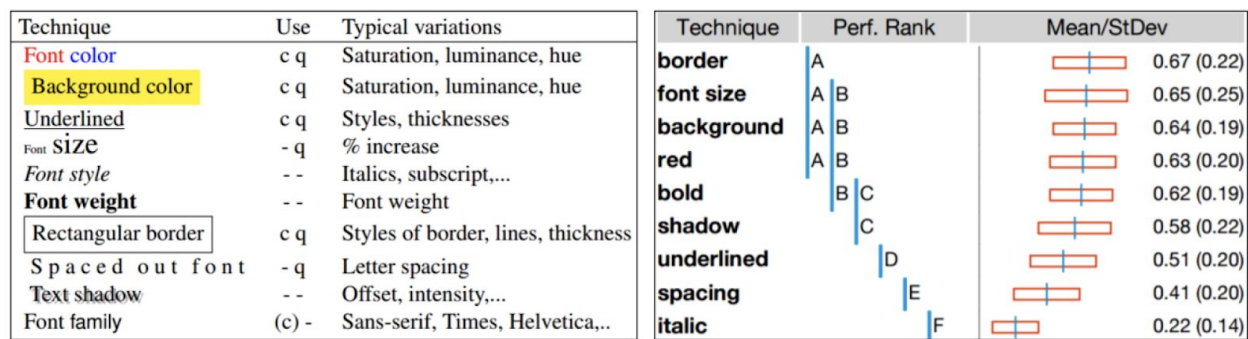


Figure 3. Strobel et al.'s test of text highlight and corresponding ranking. Image by Strobel et al.

In sum, my approach seeks to leverage typographic encodings to communicate the quantitative and qualitative globalization of Japanese loanwords, as represented by the OED's frequency measure and Doi's semantic categories. Inspired by Brath's observation that "the integration of text into visualizations has largely been overlooked due to cultural conventions," I aim for what he terms "a broader set of visualization techniques...to aid human interpretation of text and related text analytics."<sup>39</sup>

To further engage users with Japanese loanwords, the word visualizations are enriched with a mouseover tooltip that shows: 1) the OED word definition, 2) the Japanese typography of each word, 3) each word's category, and 4) the stage of each word as defined by Doi's naturalization scale. I also include audio pronunciation for each word on mouse click, to provide an aural dimension to users' understanding. The pronunciations

<sup>39</sup> Ibid., 22.

are US and UK pronunciations, not Japanese pronunciations, to highlight the loanwords' globalized nature.

### *Quantifying the Semantic Distribution of Loanwords*

To communicate which aspects of Japan Westerners have been drawn to enough that the Japanese words defining these aspects entered English, I created a chart entitled TOP TEN CATEGORIES OF JAPANESE LOANWORDS IN THE OED. I chose to represent the top ten categories with a D3.js circular packing chart<sup>40</sup> built from a JSON file converted from a master CSV of all OED loanwords, in which size depends on a numeric value, and color on a categorical value. Sitting atop the Visualization column on the right hand of the browser window, the chart also serves as a color key for the OED word visualization in the center column. By engaging with the bubbles' size and color coding, users come away with a clear understanding that cultural aspects of Japan including food & drink, martial arts, arts & crafts and entertainment predominate among the 530 Japanese loanwords in the OED.

### *Naturalization of Japanese Loanwords*

In order to best convey how Japanese loanwords naturalize into English, it was expedient to illustrate the process and provide an example of a Japanese term naturalizing into English. I designed a chart in Adobe Illustrator entitled JAPANESE LOANWORD

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<sup>40</sup> <https://www.d3-graph-gallery.com/circularpacking.html>

NATURALIZATION STAGES based on a figure of Doi's that conceptualizes the process as a flow chart with three stages of naturalization.

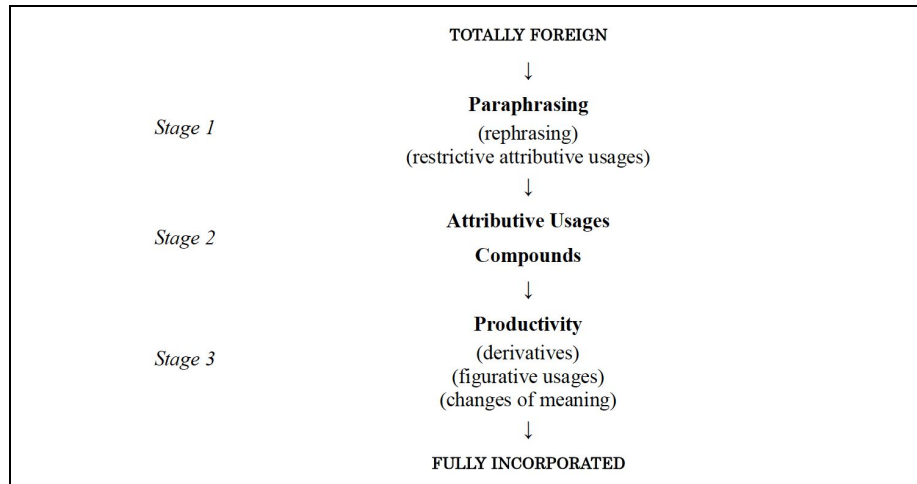


Figure 4. The Naturalisation Process Generalized. Doi.

I adapted Doi's figure with a blue-green color palette designed to encode the naturalization process as one of degree, not difference. I also included OED examples cited by Doi for each stage illustrating the different usages of the word *ju-jitsu*.<sup>41</sup> Finally, I cross-referenced the naturalization stages inside the OED word tooltip, to enable users to establish the corresponding stage for each word. Via this visualization, users obtain a clear understanding of the evolution of a Japanese word from its roots in its native tongue to its new place in the English language—in effect, its globalization.

<sup>41</sup> Doi, 102.

*Comparing Loanword Counts of the Top 10 Asian Languages in the OED*

Understanding the place of Japanese loanwords in the OED means framing them amid the wider context of Asian languages, a framing that establishes the interaction and influence of Asian cultures on the English-speaking West through language. Toward this end, I placed Japanese loanwords in a simple, color-coded bar chart based on a CSV file and built with D3.js and Vue.js. The chart titled TOP ASIAN LANGUAGES IN THE OED BY LOANWORD allows users to readily grasp the fact that Japan is the second-greatest contributor of loanwords to the OED—despite Japan’s centuries of isolation and the fact that it was never colonized by the West.

*Historic Context: Japanese Loanwords in the OED Over Time*

The presence of Japanese loanwords in the OED tells us not only a quantitative and qualitative story about Japan and the West—it also contains evidence of specific historic interactions. For this reason, it was important to include a visualization that speaks to this history. With this in mind, I chose to create a bar chart histogram entitled JAPANESE LOANWORD ADDITIONS TO THE OED OVER TIME that show additions to the OED by decade since the first Japanese loanword *typhoon* entered the dictionary in 1588. I built the histogram from the master CSV of 530 Japanese loanwords with D3.js and Vue.js.

In the chart, spikes of loanword additions reflect successive waves of Japanophilia. The first spike came in the 1720s when the publication of Kaempfer’s *The History of Japan*

sparked fascination with the mysterious nation, leading to the addition of over 40 Japanese loanwords including well-known terms like *samurai*. A second spike is observed in the late 19th century after Japan opened to the West, and a third is seen after World War Two. Due to the OED's gradual update process, however, the current Cool Japan boom does not appear in its data. This necessitated turning to more recent data sources the New York Times and Google for a picture of the current state of Japanese loanwords in the English lexicon.

#### Visualizing Loanwords of the Modern Era: *The New York Times*

As the 'paper of record' for the United States, with a searchable API of article records dating to the 19th century, *The New York Times* provides a deep source of data for word frequency analysis. I queried the NYT's article API to return metadata in JSON format, which I then converted to CSV files for line charts, and JSONs for article popups.

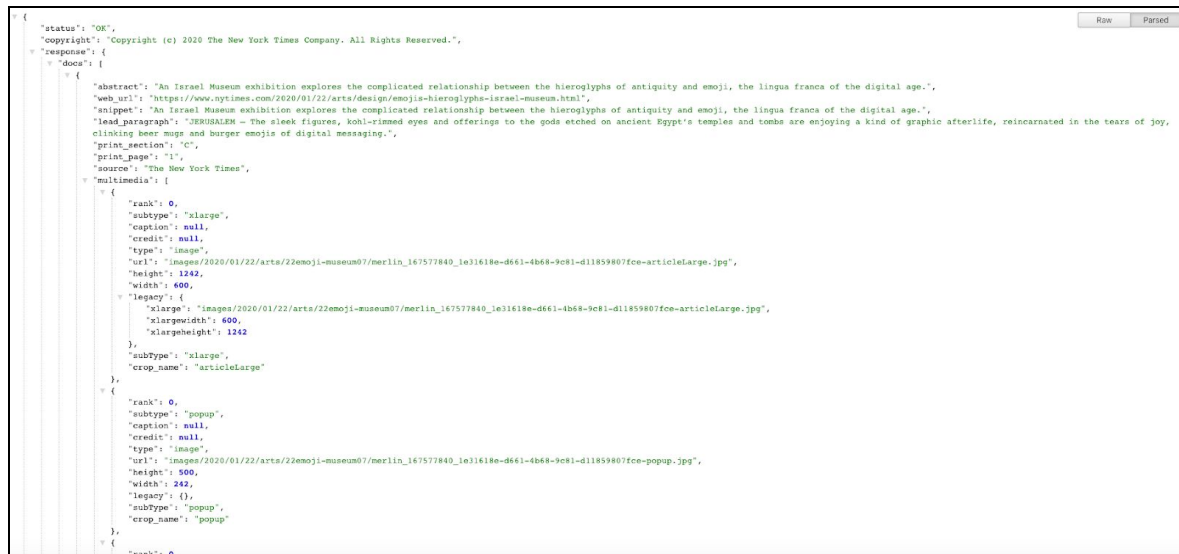


Figure 5. A sample JSON returned from a query for *emoji* to the *New York Times* API.

I structured the search terms of the visualization JAPANESE LOANWORDS IN THE NEW YORK TIMES to capture waves of Japanophilia, beginning with traditional conceptions of Japan reflected in words like *geisha*, on to modern Japanese phenomena such as *emoji*. Given the prominence of Japanese cuisine and martial arts in Westerners' experience of Japan, I also included terms like *ramen* and *judo*. I designed this visualization using the small multiples model, to enable users to quickly compare the frequency of Japanese terms in the NYT over time, beginning with the earliest terms to appear and ending with the last. This structure allows viewers to perceive spikes of interest, such as one that occurred for *geisha* after the 2005 release of the book and then film *Memoirs of a Geisha*, and trends like the recent relentless growth in usage of the terms *ramen* and *emoji*.

The visualization is enhanced with rollovers that show a particular image, headline and abstract from actual NYT articles featuring the given search term. Through these examples, users obtain a sense of how Japanese words become naturalized and obtain productive usage in the linguistic sense—for example, when columnist Maureen Dowd employed the term *geisha* to describe Jackie Kennedy.

In sum, the NYT visualization is designed to offer users both a quantitative and qualitative understanding of Japanese loanwords' shifting roles and prominence in the Western conversation over the 20th to 21st centuries.

#### Word Maps: Visualizing Loanwords of the Internet Era via Google Search

The arrival of the 21st century not only heralded the Cool Japan phenomenon, it also spurred a deluge of digital Japanese content reaching a Western audience and the arrival of new methods for the curious to search topics of interest in Japan. A trove of Google Search data can be accessed through the Google Trends portal, which offers granular search interest data for global geographic regions between 2006-2020. While Google *doesn't do so itself*, this data offered the intriguing opportunity to aggregate it by year and animate shifting search interest values over time by country, providing users an immediate, visceral understanding of the globalization of Japanese language and concepts. The value of animations is that they possess 'object constancy', which lessens



the cognitive burden of following data “by using preattentive processing of motion rather than sequential scanning of labels.”<sup>42</sup>

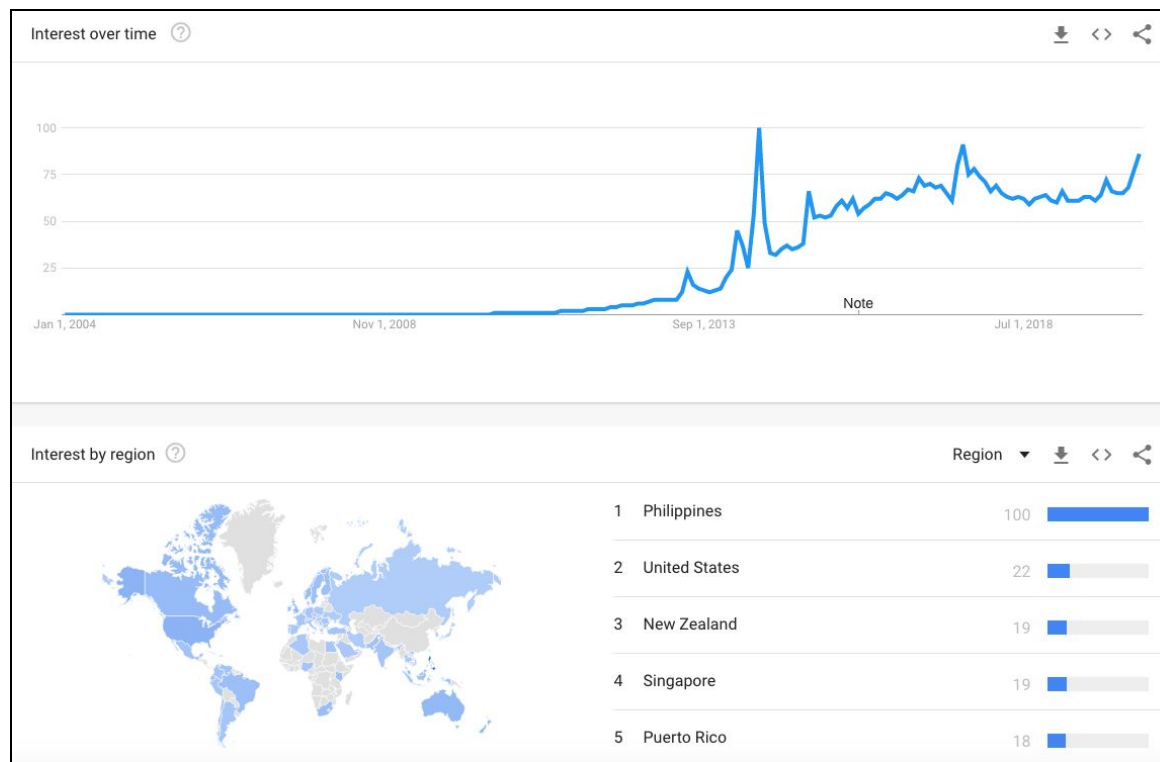


Figure 6. A sample Google Trends search for *emoji*.

To continue my investigation of waves of Japanophilia, I present these ANIMATED WORD MAPS in two sets. The first, ‘Single Words,’ presents five terms representing Cool Japan: *cosplay*, *Hello Kitty*, *kawaii*, *ramen* and *emoji*. Search interest over time is computed against search interest by region for each year from 2006 to 2020, to capture the regional growth and/or decline in search interest over time, by nation, for each word. Users can interact with the animation both by pressing a play button or selecting a year. A tooltip

<sup>42</sup> <https://bost.ocks.org/mike/constancy/>

also shows relative search interest on a 0-1 scale for a given country. Finally, a counter indicates aggregate search interest over time for the world.

The second animated word map, 'Word Pairs,' contrasts five older words against the five Cool Japan terms: *kimono* vs *cosplay*, *samurai* vs *Hello Kitty*, *geisha* vs *kawaii*, *soba* vs *ramen* and *kanji* vs *emoji*. A tooltip provides relative search interest information for each term on a 0-1 scale. The goal of this second map is to test to what extent loanwords signifying traditional views of Japan remain a significant source of interest, as terms representing recent Japanophilia arise in the Western discourse.

These maps confirmed some of my expectations as a Japanophile, and confounded others. For example, I was not surprised to see many Japanese concepts like *cosplay* and *kawaii* first become objects of interest in nearby countries such as the Philippines and other Southeast Asian nations. I was surprised, however, to see Latin America and Europe being first adopters of *Hello Kitty*. Similarly, it was no shock to see North America at the cutting-edge of the *ramen* boom, but even before the US and Canada, Belgium was most interested in the Japanese noodle dish. One takeaway from these thematic word investigations is that enduring symbols of Japan like *samurai* can see search interest return after spikes of interest for what may be passing Cool Japan fads such as *Hello Kitty*.

While we should be guarded in drawing conclusions from Google Search data, another inference is that, in an era of supercharged interconnectivity, trends can bubble up anywhere, anytime. It's not necessarily the case that nations close to or with cultural affinity to Japan will be the first to see bumps in interest in Japanese culture.

Globalization of culture, it seems, is hardly a smooth or predictable process, or one that follows trade routes in a direct modality. To pursue this further, cross-referencing search data with data on trade in goods, services and software would be a fascinating area for investigation.

### Structural Limitations Imposed by Data Sources

All three data sources imposed significant structural limitations on the implementation of this project. The OED, while the most authoritative English dictionary, is subject to the idiosyncrasies of its human lexicographers. The process whereby loanwords are added isn't normalized over the dictionary's five centuries of sourcing Japanese loanwords, and the selection process for words involves subjective judgements, such as 'evidence that the word has been in use for a *reasonable* amount of time.'<sup>43</sup>

For "Turning Japanese," the OED's sporadic update process meant that it couldn't serve as a normalized data source for Japanese loanwords, and that additional data sources were required for loanwords of recent decades. These sources came with their own

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<sup>43</sup> <https://www.oed.com/page/faqs/Frequently+asked+questions#qualify>

challenges. First, loanwords needed to be *selected* from the NYT and Google Search, entailing a different approach to tracing loanwords than was available with the OED.

Second, the NYT's API limits requests to 10 per minute and 4,000 per day, imposing constraints on the frequency searches at the core of this project. Third, Google Trends data isn't available as an API but only as CSV files, making data aggregation a cumbersome project. The sum effect of these challenges was to render "Turning Japanese" a proof-of-concept project that reflects the state of Japanese loanwords as they stand in 2020. Optimally, it would have called on APIs dynamically and continued to update Japanese loanwords in the future, serving as a 'living record' of the accretion of Japanese concepts in English over time.

## Conclusion

### Data Visualization, Language and Culture: Lessons and Applications

The goal of this project was to visualize the globalization of Japanese language and concepts. It represents a first holistic attempt to apply data visualization approaches to the diffusion of Japanese culture worldwide. I began the project with the experience of using Google Ngram Viewer and Trends to examine Japanese cultural globalization, but wanted to develop techniques that wouldn't leave my research completely dependent on Google's 'black box' algorithms. By also utilizing the OED and NYT, I was able to obtain a transparent look at datasets of Japanese loanwords that provided insights into how

Japan's interactions with the English-speaking world sparked successive waves of Japanophilia in the West. Viewing these interactions as visualized in "Turning Japanese," users are able to grasp the nature and mechanics of these waves in a way that leverages the cognitive benefits of visualization. I hope this data-driven approach to history helps to enhance current understanding of Japan based on written and video materials.<sup>44</sup>

"Turning Japanese" can be considered part of a new group of associated fields called variously 'cultural analytics,' 'culturomics,' or 'digital humanities.' It's thus worth considering the project in light of some of the issues that have emerged from the field and criticisms that have been aimed at it.

Google's Ngram Viewer project launched a raft of computational lexicological research, some of which has been conducted by scientists with no experience in linguistics. This has led to criticism that conclusions reached through computational techniques can rely on faulty assumptions. For example, a paper by physicists on the 'cooling' of the English language over time was criticized for employing an Ngram data set prone to errors due to mistaken optical-character recognition in the scanning process, and "noisy" data characterized by inconsistencies in spelling, etc.<sup>45</sup> Similarly, the New York Times and Google Search data presented in "Turning Japanese" also needs to be considered

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<sup>44</sup> Chris Alen Sula, "[Quantifying Culture: Four Types of Value in Visualization](#)," *Electronic Visualisation in Arts and Culture*, eds. Jonathan P. Bowen, Suzanne Keene, and Kia Ng. Springer (2013): 25–37.

<sup>45</sup> Ben Zimmer, "[When physicists do linguistics](#)," Boston Globe, 2013.

carefully. As previously noted, the intention of the writer or user in employing the word may differ from what is assumed.

In addition to the issue of the reliability and interpretative accuracy of the datasets employed in “Turning Japanese,” there is also a question of to what extent these loanwords are representative samples of Japanese terms entering English at any given time. As Lev Manovich asks: “The most basic question for any quantitative study of cultural history remains unaddressed. This question is, how can we compile representative samples that systematically cover everything created in a particular period, geographic area and media—or in many such periods and areas together?”<sup>46</sup> My first data set, while a complete representation of the OED’s Japanese loanwords, relies on choices made by OED lexicographers. For the NYT and Google, I’ve made my own choices (confirmed by Japan experts) in order to tell a certain story. While tantalizing, the prospect of a truly representative sampling of Japanese loanwords seems *prima facie* impossible to achieve. This shouldn’t prevent us from exploring the material—but it does mean we need to be careful about our conclusions.

An even larger criticism made of lexicological research based on corpora sampling is that it misses the entirety of spoken language.<sup>47</sup> It would no doubt be highly revealing to know what the shogun Tokugawa Ieyasu said to English captain John Saris in 1613, and learn

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<sup>46</sup> Lev Manovich, “Cultural Data: Possibilities and Limitations of Digitized Archives,” 264.

<sup>47</sup> Andrew Dickson, “[Inside the OED: can the world’s biggest dictionary survive the internet?](#)” The Guardian, 2018.

how their conversation was translated. This could provide remarkable insight into the earliest naturalizations of Japanese loanwords. Today's social media and texting more closely approach speech—a future iteration of “Turning Japanese” might obtain insights into the cutting-edge globalization of the Japanese vernacular by examining these data sets.

My personal interests and experiences spurred me to undertake this project, but it's also important to consider what kind of audience may find it useful, and what applications it may have. First and foremost, I hope that “Turning Japanese” provides insights for users interested in Japan—and Japanese themselves. Given its chronological/historical overview, one obvious setting where “Turning Japanese” might be employed is in academia. The combination of a timeline with loanword data, audio, quantitative and qualitative as well as geographical analysis suits it to form an element of curricula, for example, in a course on Japanese history, language or the recently fashionable area of Cool Japan studies. Along these lines, a colleague in Japan has expressed a wish to use it for a journalism course he teaches at Sophia University in Tokyo.

Another sphere where “Turning Japanese” might find application is in diplomacy. To further the goal of peace, international relations professionals often seek to develop projects that emphasize shared values. By capturing and ‘data-fying’ the penetration of Japanese concepts into the Western mind, “Turning Japanese” emphasizes shared values between Japan and the West. Seeing the potential in the project, the US State

Department-funded East-West Center has expressed interest in using it as the basis for a cultural component of their Asia Matters for America/America Matters for Asia website.<sup>48</sup>

“Turning Japanese” could also provide the foundation for applications in the world of commerce. Marketers seeking to measure interest in Japan-related content and products could use the NYT and Google Trends visualizations in business intelligence dashboards. These could be made particularly timely by harvesting the latest Japanese loanwords or brand-names from social media, blogs and gaming platforms where the cutting edge of cultural interaction takes place, then plugging them into the NYT and Google Trends visualizations. This approach could even be extended to other nations and cultures.

#### Japanese Soft Power and Foreign Policy: Cool Japan vs the Japanese Language

If Nye’s formulation of soft power holds true, then the current wave of Japanophilia has likely heightened the ability of Japan to achieve its geopolitical aims. Polls and events bear this out. At least in the US, Japan now polls high on the list of America’s allies—despite consistently running a trade surplus for decades that in the past had been a source of friction. A 2015 Pew Research Center report commissioned by the Sasakawa Peace Foundation USA, for example, showed that 68% of Americans trust Japan a great deal or fair amount, and more than 80% want ties to remain close or get closer.<sup>49</sup> And

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<sup>48</sup> <https://asiamattersforamerica.org/>

<sup>49</sup> Pew, 2.



despite US President Donald Trump's tariff threats, the 2019 U.S.-Japan Trade Agreement (USJTA) didn't include new commitments from Japan on auto vehicles.<sup>50</sup>

What's more, Western Japanophilia shows no signs of slowing. Just last year, Hollywood's version of the anime classic *Alita: Battle Angel* starred a lead female with the hallmarks of *kawaii* cuteness. This suggests that, as theorist Eiji Ōtsuka posits, Americans no longer even recognize these hallmarks as Japanese, and that, "Japanophilia is thus not just a fascination with the exotic Other, but also an acceptance of that Other as an integral part of our own culture."<sup>51</sup>

Given that "Turning Japanese" focuses on language as a vector for culture, some consideration is due to the role of Japanese language education itself in furthering Japan's soft power. The Japan Foundation's triennial "Survey on Japanese-Language Education Abroad" showed that, in 2018, 3,846,773 people studied the language overseas. That's up from 3,655,024 in 2015 and just 127,167 when the first survey was conducted in 1979.<sup>52</sup> Of those nearly four million Japanese learners (the figure excludes informal students), some 66% cited Cool Japan staples like manga, anime, J-pop and Japanese fashion as the motivation for their studies. What then are the larger implications of this growth in numbers of students of the Japanese language? While it's impossible to tease apart culture and language, it's natural to assume that Japanese

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<sup>50</sup>"[US-Japan Trade Agreement Negotiations](#)," Congressional Research Service, 2020.

<sup>51</sup> Marcel Koniček, 116.

<sup>52</sup> Japan Foundation, 17.

comprehension assists Japanese soft power in a way that familiarity with Japanese loanwords alone would not.

Much has changed since 2004 when Nye pointed out that Japanese soft power is hampered by the fact that Japanese is not widely spoken around the world.<sup>53</sup> While dwarfed in comparison to English, Chinese and Spanish, the number of second-language Japanese speakers has bloomed. This has had a number implications.

One implication is to have created a new reservoir of people worldwide who are either sympathetic to Japanese culture and/or view Japanese ability as a wise career move. Inspired by the Japanese games and anime exports they grew up with, a new generation of fans from countries as removed from Japan as, for example, Qatar, is taking up Japanese studies for the first time.<sup>54</sup> Meanwhile, South Korean immigrants to Australia study Japanese to consolidate their position in Australian society, due to the higher perceived status and wider use of Japanese compared to Korean ( this may change thanks to K-pop etc.).<sup>55</sup>

Even more intriguing is the possibility that Japanese language ability can help to create respect for the values of Japanese society—values being another facet of Nye's soft

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<sup>53</sup> Kayoko Hashimoto, *Japanese Language and Soft Power in Asia*, 3.

<sup>54</sup> Aiko Nemoto. "Japanese Pop Culture as a Motivating Factor for Japanese Language Learners in Qatar," 147.

<sup>55</sup> Esther Lovely. "Assessing the Soft Power of Japanese Language in Australia: Young Korean Migrants Studying Japanese as a Foreign Language," 190.

power formulation. While many young Hong Kongers consider themselves Japanese culture *otaku*, their Japanese language ability took on new meaning during Hong Kong's 2014 anti-China Umbrella Movement. Conscious of Japan's 'gaze' on them through the Japanese media and supportive comments from Japanese people on social networks, Hong Kongers connected directly with Japanese through language in a way that economic and cultural consumption alone would not have achieved. Following the Umbrella Movement, say Mochizuki and Nomura, "Japanese language can be interpreted as a co-optive form of soft power that entices users of Japanese to cast back favourable gazes at Japan, because largely pro-democratic young Hongkongers consider Japan to support Hong Kong's struggle for democracy and human rights. As such, the language of a country may function as a form of soft power in another country, in tandem with an appreciation of that country's fundamental values, such as democracy and human rights."<sup>56</sup> While the authors conducted their research via interviews, such qualitative data could possibly be reinforced through data-driven techniques by, for example, analyzing Tweets between Hong Kong and Japan in 2014 for words like 民主主義 ("democracy").

Other positives of the Japanese language expansion sparked by Japanophilia have been observed, such as an image of Japanese no longer shaped by Japan's early 20th century militaristic period, when Japanese language instruction was forced on its colonies. But some warn of an over-reliance on a simplified Cool Japan vision of the nation. This author and many others have criticized the Japanese government's Cool Japan Fund,

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<sup>56</sup> T. Mochizuki and K. Nomura. "Japanese Language in the Wake of Hong Kong's Umbrella Movement: Is It a Form of Soft Power?," 175.

which seeks to leverage Japanophilia to enhance Japan's soft power, for wasteful spending on consumption-related ventures, and a lack of support for the poorly paid workers who actually create anime and other content. Excessive emphasis on Cool Japan content also downplays enduring aspects of Japanese culture such as its traditional visual and performing arts, martial arts, literature, and of course language. This project has documented some of the still-popular aspects of traditional culture, and last but certainly not least, the phenomenal popularity of Japanese cuisine. Meanwhile, even as the Japanese language grows in popularity, the number of students studying Chinese has exploded worldwide, far eclipsing the number of students of Japanese.<sup>57</sup>

### The Future of Japanese and Asian Soft Power

The economic rise of Japan's rivals South Korea and China raises the question—can they rival or even surpass Japan as a soft power? The success of K-pop and TikTok point to such a potential, but the past and present don't predict the future. The question is particularly pressing in relation to China, the proverbial 800-pound gorilla in the room. China's rapid buildout of Confucius Institutes and Confucius Classrooms, with the goal of 500 around the world by 2020<sup>58</sup> apparently has a larger purpose of eventually rivaling English as a global language. And the growing community of international speakers of Chinese seems likely to form fertile ground for the seeding of Chinese cultural content

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<sup>57</sup> Gerry Groot, "Cool Japan Versus the China Threat: Does Japan's Popular Culture Success Mean More Soft Power?," 33.

<sup>58</sup> Ibid, 35.

and memes. But many have also noted that China's state-driven propaganda efforts are even heavier-handed than Japan's Cool Japan Fund drive, and that China's censorship and control economy stifle much of its creativity. China has lacked an indigenous, spontaneous creative industry like anime able to win fans abroad, though the rise of TikTok may be a sign of change.

In relation to "Turning Japanese," the question is: How can its corpus-analysis and visualization techniques be utilized to understand waves of interest in other countries' cultures such as China's? One takeaway from "Turning Japanese" is that the current Japanophilia has deep roots in the past. As I did with Japanophilia, one could look at the growth of Chinese loanwords over time and their relative frequency to discern China's historic impact, and then visualize current trending Chinese terms like "hot oil" to understand to what extent they iterate on past waves of interest in China, and where and to what degree they are impacting the Western mind. One phenomenon does seem certain—as China and India grow into what are predicted to be the world's top two economies by 2030<sup>59</sup>, and other Asian economies see rapid expansion, Asian cultures are likely to have a concomitant impact on the global conversation, weakening the dominance of Western culture and leveling the state of interchange.<sup>60</sup> To understand this, there is a need for more robust, normalized datasets and data science approaches to

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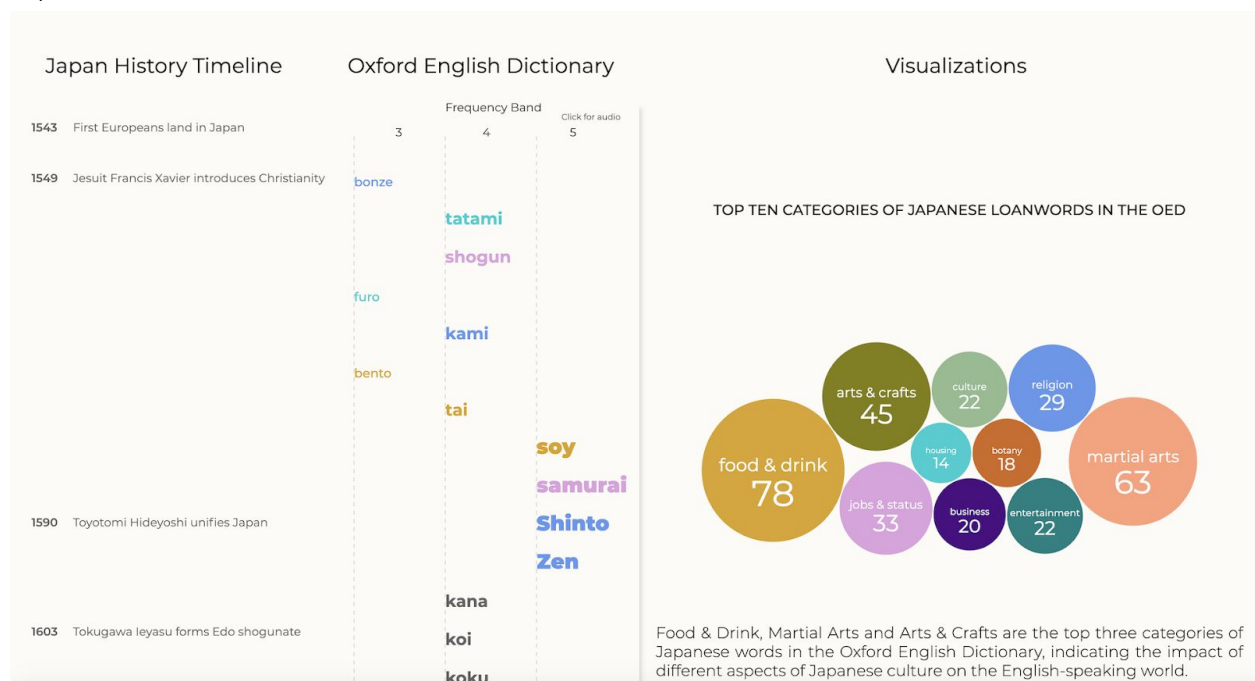
<sup>59</sup>Kuwar Singh, "[India will overtake the US economy by 2030](#)," World Economic Forum, 2019.

<sup>60</sup>The West's adoption of Asian face-mask practices amid the current coronavirus health crisis is a sign this is already taking place.

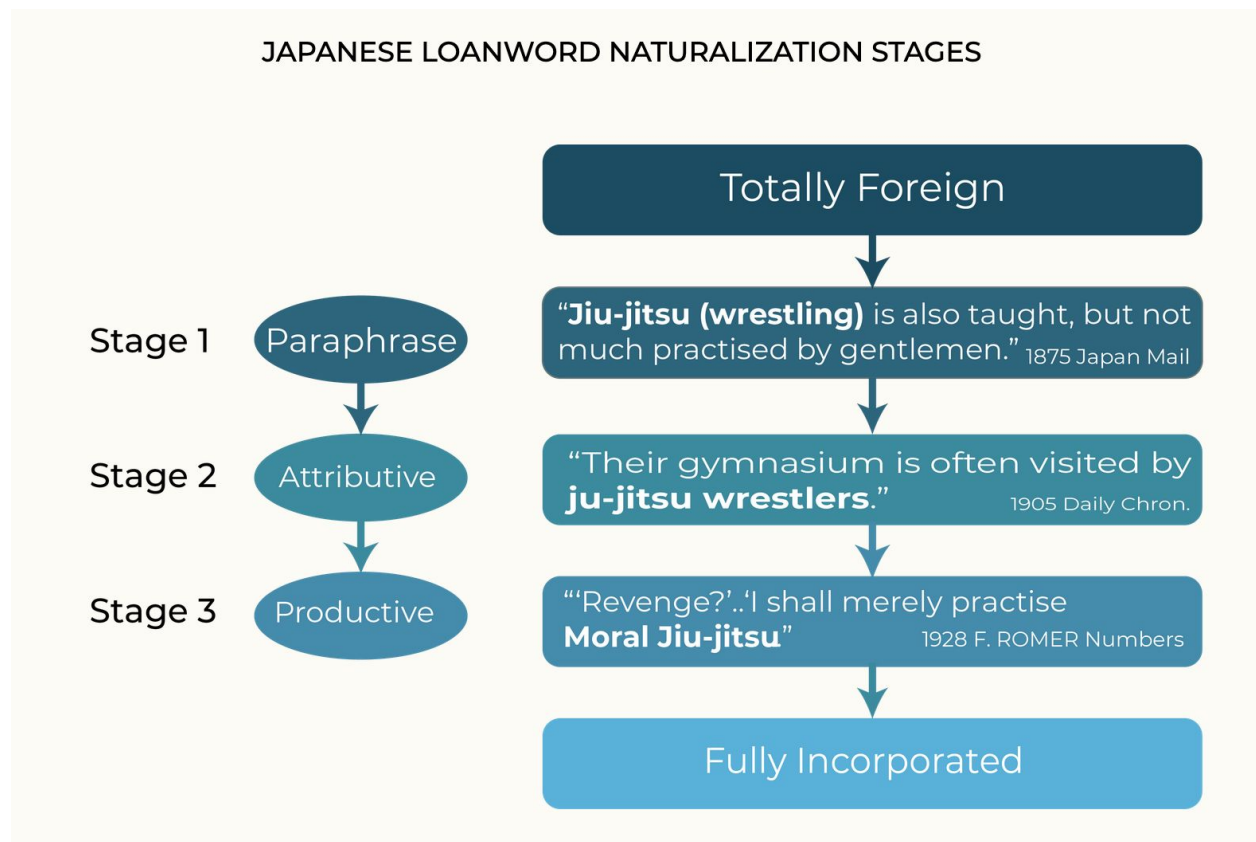
understanding cultural interactions, and data visualization techniques suited to the purpose.

## Visualizations

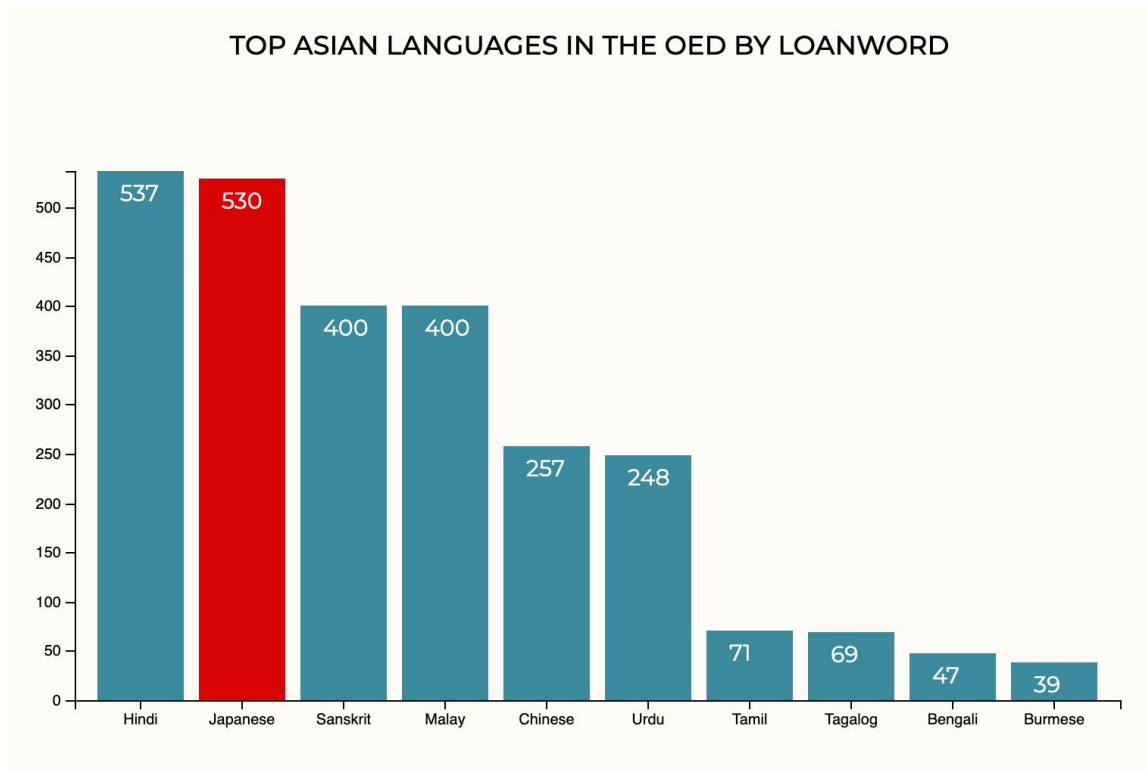
(L to R) 1. Japan History Timeline, 2. Oxford English Dictionary, 3. Top Ten Categories of Japanese Loanwords in the OED



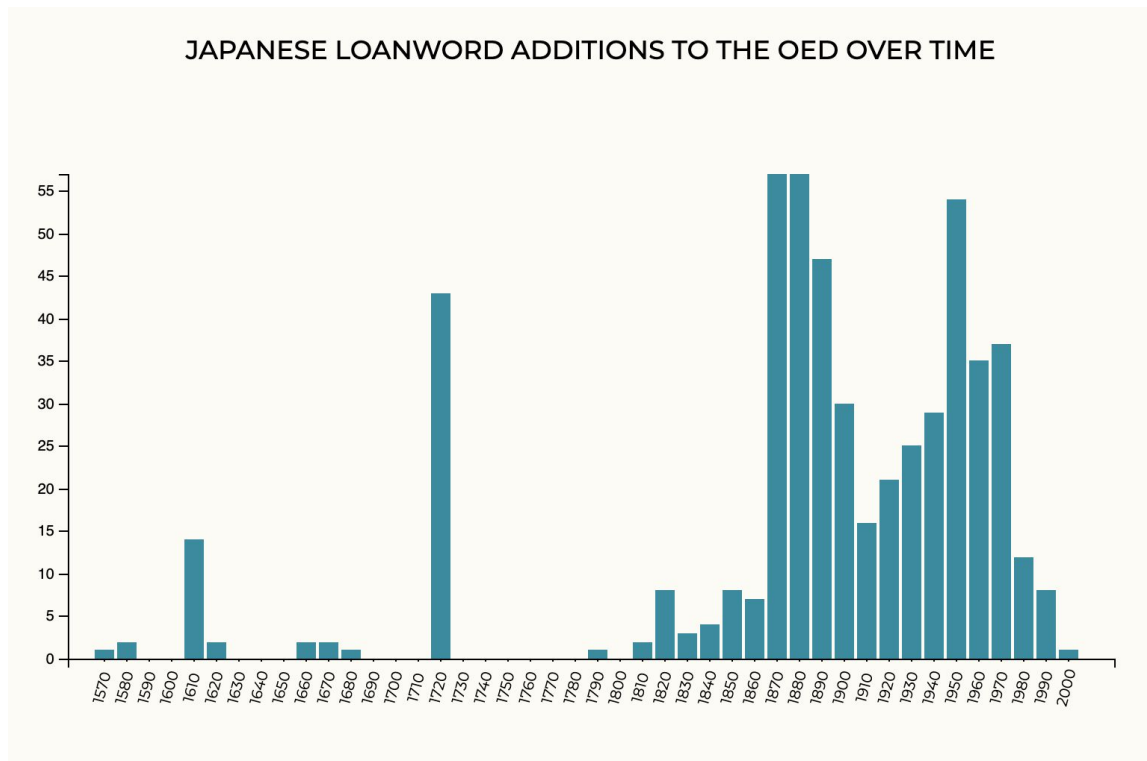
## 4. Japanese Loanword Naturalization Stages



## 5. Top Asian Languages in the OED by Loanword

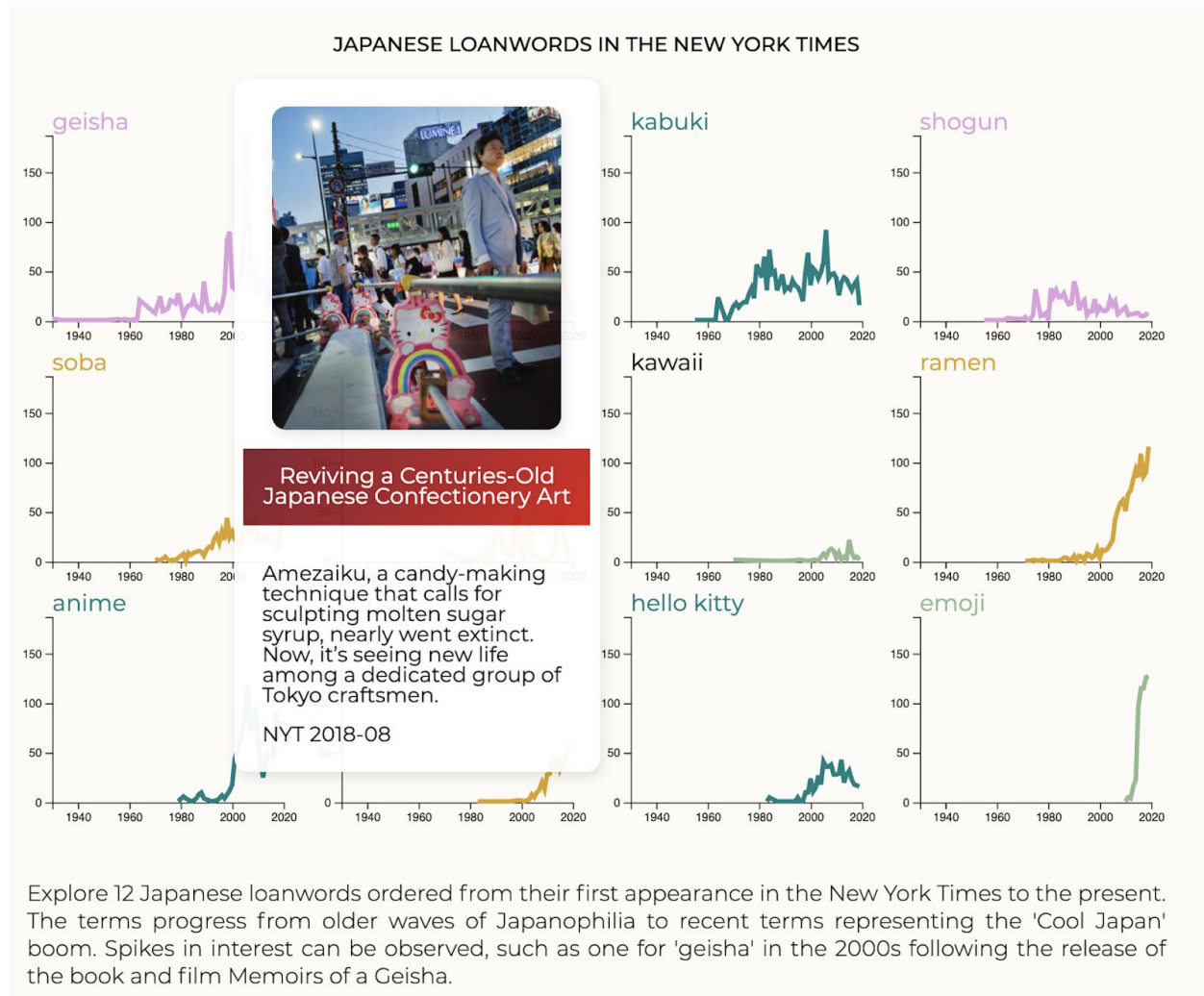


## 6. Japanese Loanword Additions to the OED Over Time

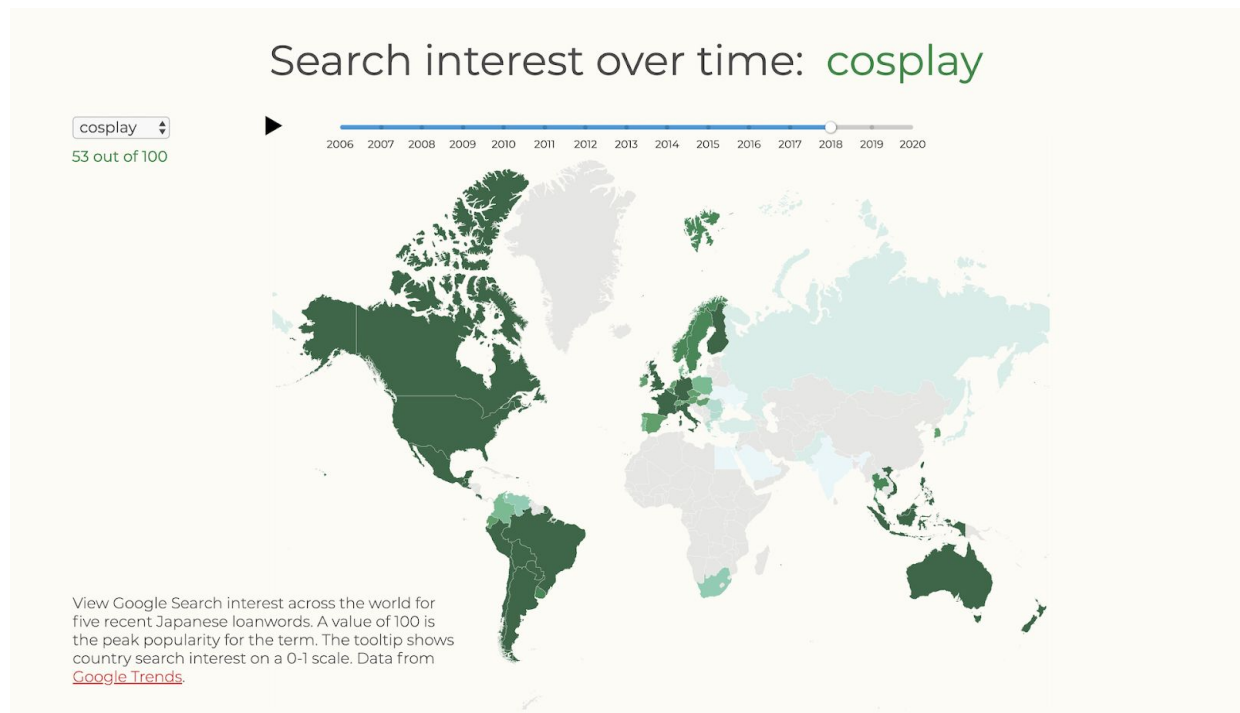




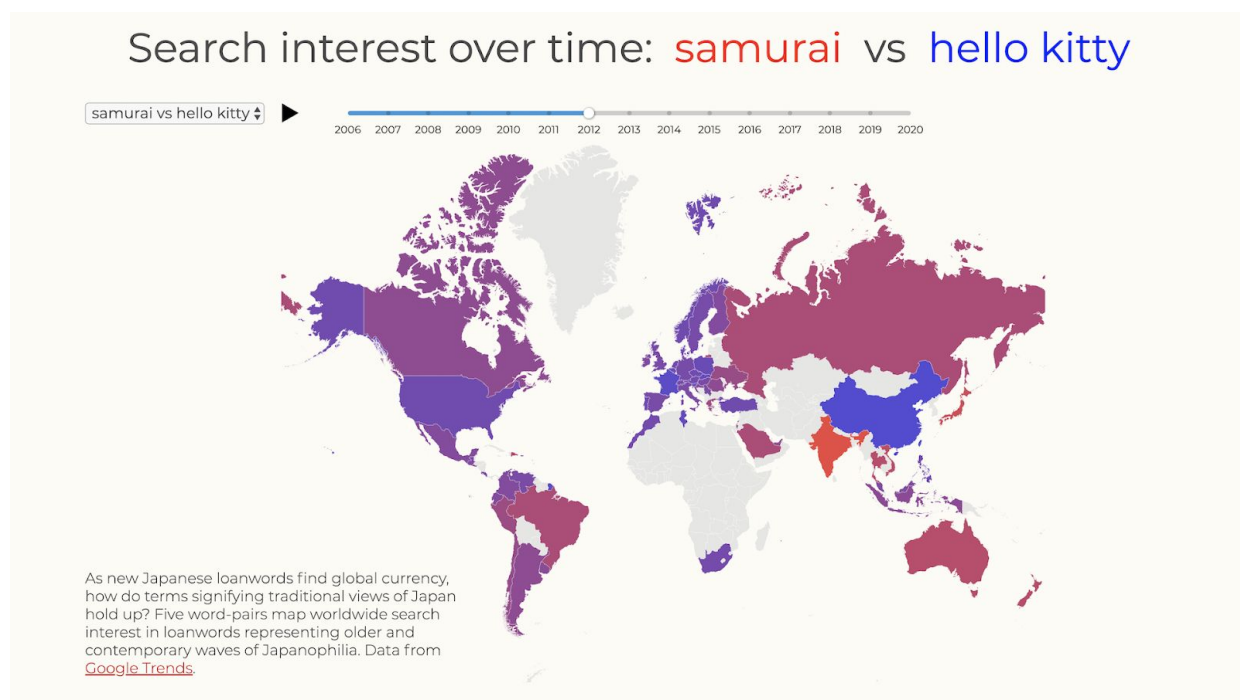
## 7. Japanese Loanwords in the New York Times



## 8. Animated Word Maps: Single Word



## 9. Animated Word Maps: Word Pairs



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