

# Remarks on the modernization of Japan and Turkey in the 18<sup>th</sup> and 19<sup>th</sup> centuries

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Comparisons of the history of modernization in Japan and Turkey continue to interest layman and specialist alike. This is particularly true in Turkey where, because of Japan's dramatic victory over Russia in 1905, Japan has long been admired as the rising star of the East. Unfortunately, very few studies have attempted to compare the two countries in a serious, scholarly manner. One exception is, of course, Ward and Rustow's well-known study, *Political modernization in Japan and Turkey*, which analyzed the comparative problematic from a modernist perspective. Although that work examined the transfer of knowledge from the West in the context of political, economic, and educational modernization, it did not deal at length with the issue of the transfer of science and technology.<sup>1</sup> To my knowledge, the only other occasion when a systematic discussion of this issue took place was a brief workshop held at Boğaziçi University (Istanbul) in the early 1980s.

How should we compare the adoption of Western science by Japan and by Turkey? One would have to conclude that Japan is far more advanced than Turkey in terms of the assimilation of Western science. A sober reminder of this gap is seen in the remarkable ability of prewar Japanese scientists to develop Nobel-winning research in the modest conditions of a developing Asian society, compared with the dismal slowness of their Turkish counterparts—and this despite the fact that the ideal of modern science and technology was enthusiastically advocated. An anecdote related to me by Professor Ömür Akyüz of the Physics Department of Boğaziçi University wonderfully illustrates this stark contrast in the development of science in the two countries. Mehmed Akif, the great Turkish poet who wrote the lyrics of the national anthem and a veterinarian by training, visited Berlin in 1916, where Albert Einstein worked from 1913 to 1933. While in Berlin, Akif heard about Einstein's theory of relativity and his idea of the equivalence of matter and energy. Mehmed Akif appreciated the modern science of the day and upon his return he incorporated it into his poetry. In one poem, the Poet urges Asym, an imaginary young man (most probably his own son) and his friends to go to Europe for further education, especially in positive science. He explains how in Europe,

They seek the "Corpuscular Power of matter."

Wishing to harness this remarkable power.

Number of heads spend thousands of effort

...

For, from one drop of substance, they'll extract,

Not millions of but endless power.<sup>2</sup>

As Akyuz comments, this was before 1920. Yet in his view no one seems to have followed up on the hint. The study of relativity and quantum physics were not mentioned seriously in Turkey until 1942, and appeared as regular university courses only in the 1950s. The first Turk to receive a Ph. D in physics (Sorbonne, 1926), Fahir Emin [Yenicay], never bothered to teach the fundamentals of modern physics for a long time. By contrast, Akyuz explains, a young Japanese electrical engineer, Nishina Yoshio, visited Europe in the 1920s, attracted by modern theoretical physics, and before 1930 had engaged in the first application of relativistic quantum physics. Upon his return to Japan, Nishina gathered a group of young and able students, and initiated them to modern theoretical physics. Two of them, Yukawa Hideki and Tomonaga Shin'ichirô, would win Nobel Prizes for their revolutionary work.

How can this radically different encounter with modern science and technology in Japan and Turkey be explained? One key factor harming Ottoman efforts was its heavy burden of defense expenditure. In what might be described as a "war orientation", the Ottomans poured huge amounts of capital into holding its far-flung empire together militarily. By contrast, Tokugawa Japan prospered economically despite the continued existence of feudal boundaries and military rule.<sup>3</sup> Tokugawa Japan was in essence a demilitarized population of mostly peasants. Hence, although Japanese domainal lords and the Shogun faced occasional peasant uprisings, these uprisings rarely presented the degree of military danger that the ethnic and political rebellion of armed leaders in the Balkans, or the clash of powerful imperial armies such as the Hapsburgs and the Romanovs presented to the Ottomans. In other words, the Ottoman style of empire building dictated the need for a costly military infrastructure. Large portions of Ottoman resources were drained by defense. In Japan, on the other hand, while the military aristocracy was an unusually high proportion of the population—close to 10 percent in some areas (in contrast with the usual 2–4 percent of most monarchical orders)—the Japanese samurai managed with the sword as the principal weapon to keep order in a society of peasants prone to discontent due to high taxes. All in all, Tokugawa Japan was a society at peace.

In short, an important factor in Japan's acquisition of Western science was

the strong material foundation of Tokugawa Japan. Tokugawa Japan's robust economy can be seen in its rich urban culture. Edo, the center of the Tokugawa national government, grew to a city of one million. The urbanization of the aristocracy went hand-in-hand with the flourishing of a sophisticated urban culture of leisure in which samurai and wealthy merchants enjoyed the pleasures of the floating world—in poetry, theater, and the erotic amusements of the courtesan quarters. The Tokugawa era witnessed sustained economic and population growth, the rise of a small elite of wealthy commoners, the foundation of a productive economy of rice agriculture, and healthy domestic trade. As T. C. Smith masterfully argues in his work, *The agrarian origins of modern Japan*, the wealth of the Tokugawa cities, the surplus of its villages, and the enterprising spirit of its wealthy commoners formed the foundation of modern Japanese capitalism in the 19<sup>th</sup> century, once the Meiji regime adopted a conscious policy of modernization.<sup>4</sup>

This raises the next fundamental contrast in the historical circumstances of these two countries: the challenge of implementing new policies on a national level. The Ottoman Empire was an amalgam of territories covering a subcontinent, and encompassing complex populations that were distinct in every sense (linguistically, religiously, culturally). Japan, on the other hand, an island nation, had a well-integrated population which shared a common cultural identity, evident in language and in cultural praxis. While executing self-conscious shifts in national direction (as during the Meiji period, 1868–1912) was by no means simple, such dramatic changes in national orientation were much more plausible in Japan than in the decentralized, sometimes fragmented Ottoman state.

In addition to these differences was the West's very different attitude towards Turkey and Japan, especially during the 19<sup>th</sup> and early 20<sup>th</sup> centuries. During the 19<sup>th</sup> century an important measure of political power was the possession of territory. To the expanding powers of the West, Japan was a poor prize. It was, after all, but a small, mountainous island with meager natural resources. The Ottoman Empire, on the other hand, was land rich and presented a rich trophy for expanding nation-states. This relative lack of Western interest in Japan, combined with Japan's rapid adoption of Western legal and political structures, insulated Japan to an important degree from the rapaciousness of 19<sup>th</sup> century imperialism.

I propose at this point to pause and rethink the entire narrative of this comparison. Where does the secret, if any, lie in the emergence of modern Japan after 1868 into the world of the Great Powers, while the Ottomans by that time came to be known as the Sick Man of Europe? I believe that more than anything

else it was the special circumstances of the Meiji era, which made the qualitative difference in the history of reform. This difference facilitated Japan's assimilation of science and technology, the so-called nerve center of modernity. Granted, the Tokugawa heritage was important, but I differ from the recent fascination with Tokugawa data as the source of all that was modern in Meiji Japan. Instead, I would emphasize the psychology of the early Meiji generation of leaders. Their boldness enabled a radical and total campaign of reform and adoption of Western civilization, thus quickening the birth of modern Japan, in contrast to the piecemeal style of Japan's early modern rulers. The old and new were not allowed to coexist in modern Meiji Japan: the old was forced to revise itself in terms of the new. In the wake of establishing a national secondary school system, the traditional schools were abolished. Even the dress of traditional Japan, the kimono, was reformed to fit Western forms of propriety.<sup>5</sup> The radicalness of the Meiji reform quest compares in spirit to the radicalness and iconoclasm of the Turkish Republican Revolution after 1923 under Mustafa Kemal Atatürk.

In no sphere is this more apparent than in the realm of diplomacy. For the 19<sup>th</sup> century elite of Meiji Japan and Ottoman Turkey, the revision of the unequal treaties was a common diplomatic goal that informed their respective policies. Yet, because of the strong ambitions of Western imperialists in the Near East and in the Balkans, Ottoman bureaucrats endured stifling conditions of diplomacy. By contrast, because Japan existed on the periphery of Western ambitions and never became the primary object of imperialist design, Japanese diplomats for the most part avoided the problems encountered by Ottoman officials.

Each act of reform in Meiji Japan was designed to realize the aim of treaty revision. Meiji leaders were obsessed with this goal. The cosmopolitan Ottomans sometimes resigned themselves to the immediate impossibility of the situation, and simply searched for spheres of maneuverability within the restrictions of the treaty system. The Meiji public as well as the decision-makers, on the other hand, had treaty revision and only treaty revision as the first priority in their reform program, known by its four slogans of military strengthening, economic prosperity, civilization, and enlightenment.

This comparison, therefore, brings us to the question of global conditions as they affect any society in its quest for reform, especially when it contains the policy of importing science and technology. While the Ottomans were trying to balance power in their relations with the West (the homeland of modern science and technology), their diplomacy did help improve relations with France and England to the point of gaining some help in setting up modern civilian, military, and financial institutions. But toward the end of the 19<sup>th</sup> century, one senses a

cooling of relations between the Ottomans and the British due to their clash of national interests and the overtures of the Ottomans to Germany. In contrast, the Meiji leaders who had the advantage of not being a primary objective of imperialist design by any Western power, were brilliant in their diplomatic policy of moving closer to Great Britain and finally convincing this 19<sup>th</sup> century superpower to revise the unequal treaties in 1895. In 1902, Japan formed a staunch alliance with England as expressed in the Anglo-Japanese Alliance.

In narrating the history of reform in this the age, the diplomatic successes of the Meiji leadership cannot be overemphasized. Whether one likes it or not, knowledge is power, and diplomacy has played a decisive role in the history of the transfer of knowledge from one civilization to another. A roster of the foreign advisors who served Meiji Japan shows the strength of Anglo-Saxon education, science, and technology. Meiji Japan was officially accepted in 1902 by the great powers as a European-type nation with no legal compromises. This was a tremendous diplomatic victory as well as national turning point for Japan, for it gave Japan access to the full knowledge of the industrial societies of the age.

Again, with respect to the diplomatic context of the history of science and technology, one can also argue that compared to its relations with Japan, Western ties to the Europeanized Ottoman polity of the 19<sup>th</sup> century gradually became cooler. The last strong-willed Sultan, Abdulhamid II, viewed himself as a rival in the imperialist game of Pan-Islamism, and opposed Western interests in order to protect the empire from its ambitions. By contrast, until the rise of an aggressive form of Japanese nationalism at the end of the Russo-Japanese War of 1905, Westerners residing in Tokyo during the Meiji era reflected the general Western enthusiasm for modern Japan. With the interesting exception of Pierre Loti, who loved the Ottomans and disliked the Japanese, Western public opinion did not see the modernizing Japanese as part of a dangerous oriental "yellow peril" but rather as a charming people whose efforts at modernization were remarkably admirable. Reading the diaries of such Western participants in the Meiji experience of reform, such as Lafcadio Hearn and Basil Chamberlain, one sees that the modern Japanese and some of their Western sympathizers were acting almost as partners in this quest for modernity. The Westerners who were involved in the project of Westernizing, Christianizing, and modernizing Japan may have been at times overbearing, but they were involved sincerely. The Ottoman elite lacked the flexibility of the Japanese in their approach toward Western missionary zeal. One could hardly imagine an Ottoman minister allowing some Muslims to convert to Christianity in order to improve relations with the West, and gain Western help for reform. Yet the young minister of

education, Mori Arinori, who was educated in the United States, and is known as the founder of modern national education in Japan, argued in favor of allowing some Japanese to convert to Christianity as a means of gaining Western favor.<sup>6</sup> The history of European Christendom and that of the Ottomans as the Sword of Islam simply wouldn't allow such a flexible approach to religion, merely for the sake of modern knowledge. Moreover, the historical rivalry between Christianity and Islam presented a very different psychological environment from the Buddhist and the Shinto animistic heritage of Japan, one that did not pose an immediate threat to Westerners.

In diplomatic terms, one could top this discussion with the suggestion that by the end of the 19<sup>th</sup> century the Ottomans, who used to be a close ally of Great Britain in her foreign policy against Russia, were now replaced by the militarily promising Meiji Japanese, who were to prove worthy of the Anglo-Japanese Alliance of 1902 by defeating Russian interests. As the new Star of the East, Japan was to enjoy British favor until the late 1920s, a fact that surely helped the development of education and science in Japan.

Finally, piecemeal reform in Ottoman education seems to have provoked the emergence of rival social and cultural elites that used the slogan of religion versus modernity in order to legitimize their political claims to power. This appears to be a fate that Meiji Japan largely avoided. In terms of the political stability so critical to reforms, the antagonism between the strong-willed Ottoman Sultan Abdulhamid II (r. 1876–1908) and radical reformers like the Young Turks seems to have cracked the political integrity of the top elite. The Young Turks, late 19<sup>th</sup> century Ottoman reformers with a strong nationalist agenda, resembled the Meiji leaders in spirit. This rivalry for power ultimately led to the Young Turk Revolution of 1908. By contrast, the relationship between the Meiji Emperor, who did not exercise strong power but was a unique symbol of religious and political unity, and the reformist elites, who held the reins of power in their hand as imperial bureaucrats, was much less hostile.

Furthermore, the Meiji elite emphasized the development of a modern economy, and this required modern science and technology. By the end of the 19<sup>th</sup> century, then, Japan had built up a modern sector in its traditional economy which was export oriented, based on the latest technology of mass manufacturing for such large markets as the United States and China. This appears lacking in the Ottoman case, whose modern sectors of manufacturing exhibit small-scale production of a peripheral character integrated with European trade.

In conclusion, comparison of the history of science and technology in Japan and Turkey reveals the complex layering of historical conditions that influence the behavior of nations, rather than proving the similarities or differences

between Japan and Turkey. If there is a lesson to be learned, it is this : history is not a moral book of lessons. Instead, we must contemplate a wide range of historical factors influencing the quest for science and technology in the formation of a new world.

**Notes**

1. Robert E. Ward and Dankwart A. Rustow, *Political modernization in Japan and Turkey*, (Princeton : Princeton University Press, 1964) has no direct references to science and technology, and briefly skirts the issue in the discussion of education and economic growth.
2. Translation by Ömür Akyüz from Mehmed Akif, *Safahat*.
3. Hayami Akira, in Marius B. Jansen & Gilbert Rozman, *Japan in transition from Tokugawa to Meiji*, (Princeton : Princeton University Press, 1986), 280–317.
4. T. C. Smith, *The agrarian origins of modern Japan*, (Stanford : Stanford University Press, 1959).
5. Selçuk Esenbel, “The anguish of civilization : Western cultural forms in the everyday lives of the Meiji Japanese and the Ottoman Turks during the nineteenth century,” *Japan review*, 5 (1994) : 145–185.
6. *Ibid.*