

"While the Japanese armies were in Manchuria, they met something much more serious than the Chinese forces – something which in the end conquered not only the Japanese army, but the Japanese ricefields – namely Manchurian beans and bean cakes."

Kinnosuke Adachi, *Manchuria: A Survey*, (New York, 1925), 78.

From Regional to Global: The 20<sup>th</sup> Century History of Soy as a Commodity

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Over the last century, the soybean has reached out from its ancestral home in China to feed the multitudes worldwide.<sup>1</sup> Today more than 80% of all human protein sources are soybeans or fed on soybeans. Although much still remains in the realm of fantasy, Harbin, Manchuria and Northeast Asia's contribution to world commodity history continues to gather momentum. What started as a story about Northeast Asian colonialism and regional trade development has grown into a global industry and a linchpin of Asian-Pacific economic relations under Pax Americana. In 1910, 90% of world soybean exports came from Manchuria, but by 1960, the United States was growing 80% of world production. The lucrative spread of soybeans as a cash crop from the American Midwest to the states of the Gulf Coast was made possible by soy varieties selected to grow in warmer, wetter climates. An extension of this process has permitted the explosive growth of Brazilian and Argentine soy production which sadly threatens the integrity of the great Amazon wilderness. As we move into the twenty-first century, the soybean remains a crucial tracer for international cooperation and competition in the Asia-Pacific.

As the twentieth century began, Northeast Asia joined the mainstream of world history. Consequently, this region's center of gravity, the Manchurian wilderness, experienced profound change. China, Japan and Russia competed for influence in their shared borderlands, while the United States waited and worked from the wings. Although the geopolitical interaction of these four powers explains the regular recurrence of armed conflict, the rise of the soybean as an international commodity clarifies the source of the steady stream of financial resources that made China's least developed province into her much-contested vanguard of industrial transformation.

In the first half of the century, the range of products made from the soybean expanded greatly. Although the deepest consumer impact probably fell upon Japan, different countries adapted the new resource quite creatively, guaranteeing seemingly inexhaustible demand. The

most inventive ideas went beyond dollars and yen to plumb the soybean's potential to make a better world. Only later in the century would America's emergence as the world's premier producer of soybeans signal the shift from Northeast Asia to Asia-Pacific as the primary unit of regional analysis, not only in economic, but in political terms as well.<sup>2</sup>

In this article, I present an analysis of the dynamic that led to the dramatic expansion of soybean exports in the first decade of the nineteenth century. The contribution of each country to the Manchurian international division of labor will be emphasized. The following decades saw deepening involvement, intensified competition, and increased trade volume on all sides. Finally, I will discuss the rise of the United States as the dominant force in the soybean industry in parallel with its climb to superpower status. Analogous to American political and military force taking the place of Japan in the East Asian security calculus, American soybeans replaced those of Manchurian provenance in the daily diet of the Japanese, one more important niche in which the United States reaffirms its place in the Pacific.

Nonetheless, the phenomenon is not only regional, but global, as made clear by the rise of South America as a producer and the predominance of Europe as a consumer. As such, the creation of a world market in soybeans corresponds, more or less, to a world systems' perspective in which central places wield vast powers over peripheral zones. It must be kept in mind, however, that such technologies as the railroad, the steamship and the telegraph often gave a greater illusion of knowledge and control than the reality warranted. Furthermore, the specific region with which we are dealing here hosted the competition between Russia, a country whose "core" membership was always dubious, and Japan/China, the strongest and most populous of peripheral areas, suggesting a nebulous hierarchy, open to conjunctural vagaries. Both Japan and Russia can be called colonizers, but most of the colonists were Chinese. In fact, in Manchuria subjects of all three empires would have their chance both to experience oppression and to exercise colonial prerogatives. Possibly, it is this that makes standardized narratives of colonization and de-colonization so deeply dissatisfying for analyses of Northeast Asia.

Events in peripheral areas can also change the course of national histories. Russia's 1904-1905 losses to Japan in Manchuria triggered a loss of Tsarist authority that opened the way to revolutionary convulsions. Conversely, Japanese victories in Manchuria in 1931-2 would provide a tragic, expansionist impetus that would only be neutralized by Tokyo's utter defeat in 1945. In 1948 the Peoples' Liberation Army took Communist victory from Manchuria to Beijing. Since the creation of wealth based on the soybean market has many arenas, global economic integration also produces new meanings and means of social differentiation at local, national and regional levels.<sup>3</sup> A unified world commodity market, does not necessarily imply homogenized outputs or converging cultures. The variety of products determined by the bean's different cultural niches guarantees the

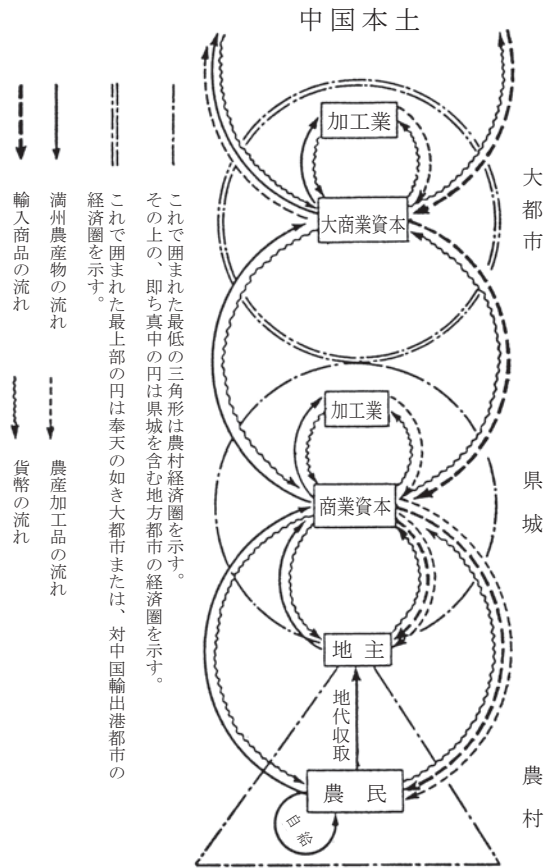
health of the industry, while threatening tension among different value systems of consumption. Sensitivity to the bean as food is bound to be higher than where it is merely animal feed or industrial input.

China's shocking 1895 loss to Japan in the Sino-Japanese War (Japanese-Qing in Japanese) brought change in the agricultural realm as well. The Russian intervention, supported by France and Germany, to prevent Japan from taking territorial compensation in Manchuria led to an 1896 Sino-Russian Defense Treaty. This agreement's most important clause stipulated that the final leg of the Trans-Siberian railroad would pass through Manchuria so that Russian troops could come to China's aid in case of need. The treaty was never invoked, but the Russians came nonetheless, concentrating their forces at the point where the new railroad crossed the Sungari (Songhua) river.<sup>4</sup> At this hub, the instant city of Harbin sprang up, destined to play a central role in the triangular competition that would structure development and conflict in Manchuria during the next 50 years.

"Balancing barbarians" (*yiyiweiyi*) was not the only device in Chinese traditional diplomacy applied towards the salvation of Manchuria from Russian and Japanese aims. Han colonization was also used. Until the late nineteenth century, Manchuria had been preserved largely undeveloped as a reserve for the traditional warrior virtues of the Manchu banners, the military organizations that had conquered Ming China in the seventeenth century. After 1895, this luxury was recognized as no longer affordable and the sale of bannerlands to Chinese colonists was authorized. In 1902 and 1904, as the Russian presence became more pressing, additional, proactive land development initiatives were undertaken.<sup>5</sup> Russian railroad construction itself brought hundreds of thousands of laborers to the frontier, mostly from Shandong province where poverty that had recently helped to produce the Boxer uprising, now found an outlet in out-migration.<sup>6</sup> China's contribution to the high-speed development of Manchuria, land and labor, was now in place. Between 1898 and 1908, Manchuria's population would rocket from seven to seventeen million. Estimates of land under cultivation suggest proportional increases over the same period.<sup>7</sup> Resistance to frost, drought and excess moisture, together with nitrogen-fixing qualities that prevented soil depletion, made the soybean the perfect crop for Manchuria's central plain.<sup>8</sup>

If the demography and agricultural promise of the soybean was immediately clear in many quarters, the complexity of the market's ecological system required not only human labor inputs from Shandong, but also strong horses from Mongolia to the West and deciduous trees from the Long White Mountains (*Changbaishan*) bordering Korea. The soybean harvest comes late in the fall and into the early winter, making it possible to transport from field to railhead on horse-carts. Such heavy loads required appropriate draught animals as well as hardwood axles. Many of these elements seem to have been in place before the opening of the railway, but the age of steam

confirmed these arrangements and brought capital to make them ever more profitable and more extensive.<sup>9</sup> Unlike the rest of China, Manchurian development based on ever increasing soybean shipments and railroad construction did not require periodic network markets. Instead trade depended on a vertical hierarchy of market relations, well illustrated by Ishida Kohei in his classic study of Northeast China's colonial economy.<sup>10</sup>



Recently, important new research by Ueda Takako has established the presence of both communication systems in Manchuria with the "tree," originally imported from Hebei province, winning out over the "network" approach typical of Shandong. In the end, argue Yasutomi and Ueda, the nature of an economy based on soybeans and railroads gave the Hebei merchants and their "tree" an advantage that promoted centralization within the region, eventually offering Zhang Zuolin and Zhang Xueliang enough financial, industrial and military strength to endanger Japanese interests. The reform that would have crowned the regional edifice was currency unification, but this was only achieved after intervention by the Kwantung Army and the establishment of Manchukuo's Central Bank. Centralization of currency reinforced "tree-shaped" relations further and served

Manchukuo and the Chinese Communist Party well as they in turn became the centralizing masters of Northeast China. At the level of political economy, the Japanese-dominated regime at Changchun was the successor of the Chang "warlord" dynasty at Fengtian. The main link is soybeans.<sup>11</sup>

The T-shaped Chinese Eastern Railway (CER) that ran across Northern Manchuria, with a branch extending southward from Harbin to the newly-constructed Yellow Sea ports of Port Arthur and Dal'nii, not only made Russia a full-fledged Pacific power, but was also supposed to support itself. The railroad's chief proponent, S. Iu. Witte, served as Finance Minister from 1892 until 1903 and claimed that the CER would give Russia a dominant position in Asian trade. To this end, he guaranteed liberal politics and religious tolerance at Harbin in order to attract a trading class (largely Jewish).<sup>12</sup> Good relations with the Chinese were also encouraged by a sinologically-competent cohort, whose double-edged task included convincing the Russian colonists that their presence should be beneficial for the local population, while attracting the CER's future customers from among the Chinese. Witte also convinced a colleague from his days as a railroad executive in the private sphere to visit Harbin to examine the situation firsthand. Roman Moiseevich Kabalkin was a specialist in grain transport and would soon be one of the richest men in the burgeoning Harbin Jewish community. Local lore describes him walking through the Chinese market with his son calling the heaps of soybeans the "gold of Manchuria."<sup>13</sup>

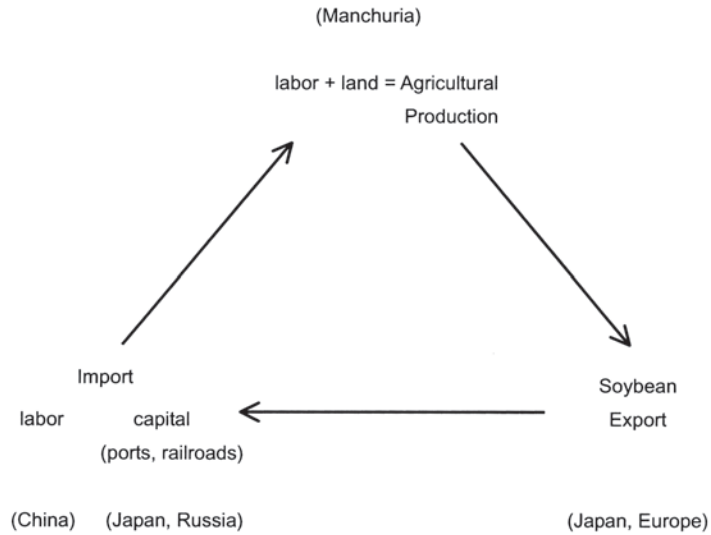
War, however, intervened before Russia could turn her enormous investments to account. Japan was unwilling to wait for the Trans-Siberian's construction to allow Russia to project power into Northeast Asia and the railroad's progress towards completion became a countdown to war inside Japanese military headquarters. Soon million-man armies squared off in Manchuria, where laboratories attached to both Quartermaster-General's staffs adapted local products to obviate the importation of war material from European Russia and Japan. The Russians with a much longer supply line and a narrower bottleneck invented aggressively. Beans soon became the main ingredients in soap, axle and artillery lubricants and animal fodder. What was feed for the Russian cavalry's horses became food for the Japanese infantry with much of the army's protein coming from soy products. All the world's military observers reported from both camps about the crucial role of the soybean.<sup>14</sup>

The Portsmouth peace treaty threatened the CER with bankruptcy. The billions of gold rubles that had flowed eastward were at an end. In Russian, the very name Harbin was associated with defeat and dishonor, unworthy of further investment. The Japanese had taken the edge off Russia's expansionist appetites. 1906 and 1907 were years of recession in Northern Manchuria, but in 1908 Kabalkin's first experimental shipment of 5.2 thousand tons of soybeans left Vladivostok for Europe. Mitsui Bussan made its trial export through Dairen (formerly Dal'nii until Japanese

occupation) to Europe during the same season and with equal success. The following year, failed linen seed crops in Argentina and poor harvests of American cotton seeds drove the demand for substitute seed oils up and Manchurian soybeans covered the shortfall. Manchuria's soybean exports shot up to 400 thousand tons in 1909, fulfilling Witte's prediction that the CER could run a profit. V. N. Kokovtsov, Witte's successor as Finance Minister, wrote in 1911 that: "Whatever your opinion of the Jewish element...it is necessary in all fairness to recognize the enormous significance of the Jews for Manchuria, where their energetic commercial activity...has solidly established grain exports and guaranteed their future."<sup>15</sup> The Japanese run South Manchurian Railroad (SMR), formerly the CER branch running south to the Yellow Sea, also benefited from this great upturn in trade and carriage statistics.

These matters did not go unnoticed. The Chinese Imperial Maritime Customs, commented in its 1909 annual report on Chinese foreign trade that "...the rise of a great export trade in beans is the fact that overshadows all others... the soya bean thus taking at a bound a position equal to that of tea in the list of exports and, with the addition of beancake, even challenging the position of silk at the top of the list."<sup>16</sup> At this point, soy products represented almost 80 percent of all Manchurian exports, with even higher totals for Northern Manchuria, and 90 percent of world soybean exports came from Manchuria. As Sir Alexander Hosie, a veteran of the British Consular Service, put it : "They [beans] are, in a word, the wealth of Manchuria."<sup>17</sup>

Competitive growth now became cyclical. Prosperity brought even more Chinese pioneers to Manchuria. Since most of the virgin lands lay to the north and west, the harvest usually found its way to the Western branch of the CER, Harbin and Vladivostok, all areas under Russian influence. Harbin, as the only large population center smack in the middle of the best bean-growing district, had the added attraction of being a direct consumer as well as a shipping and commercial center.<sup>18</sup> The Japanese fought the natural advantages of proximity enjoyed by Russian transport by coordinating relations among Mitsui, the SMR, and their financier, the Yokohama Specie Bank, as efficiently as possible. They also tried and eventually succeeded in constructing a major railroad line into northwest Manchuria that could deflect freight to the SMR and Dairen before it went to Harbin and Vladivostok. The size of the Japanese market for soybeans also provided some leverage. Steam-driven processing facilities sprang up at Dairen as the mule and grindstone faded from the scene. Shipping capacity increased at both Dairen and Vladivostok with the former overtaking Tianjin and Hankou in a rise to second place behind Shanghai among all Chinese ports.



In this manner, profits were plowed back into Manchuria both as bean-producing colonization and export-enhancing infrastructure. One Japanese observer rhapsodized on the soybean's importance: "Without them the market place would have been as lonely as lower Broadway at midnight."<sup>19</sup>

Although freight tariff maneuvers by both railroads and an attempt to corner the soybean market by an enterprising Chinese official did occur, the overwhelming importance of the export trade guaranteed that Russo-Japanese political entente in Manchuria would be reflected in a managed division of the colonial spoils.<sup>20</sup> Thus, although Dairen's totals climbed gradually, Vladivostok maintained similar levels. Conversely, when the political balance of power shifted, trade patterns also changed. The demise of the Tsarist regime ended Japan's obligations to Russia. Dairen's exports began to soar at Vladivostok's expense. The arrival of Japanese troops in the Russian Maritime Province as part of the Siberian intervention and along the CER under a Sino-Japanese defense treaty gave Tokyo and its local representatives all the leverage they needed to change economic realities as well. Both Vladivostok and Dairen exported 323 tons of beans in 1917. Three years later the former had fallen to 32 tons and the latter had risen to 710 tons.<sup>21</sup> The export trade in beans not only traces regional formation in Northeast Asia, but also measures the status of the colonial competition at any given moment.

The impact of the sudden expansion in the world soy market was arguably greater for Japan than for Russia and China. Thanks to the bean, Russia's presence in Northern Manchuria got a new lease on life after the debacle of the Russo-Japanese war. The Chinese contribution to Manchurian development guaranteed demographic dominance, a factor that would ultimately be decisive in the triangular struggle. Only in Japan, however, did the soybean mean a change in the

texture of daily life. The characteristic tastes of Japan, even today, are soy-based. Such staple items as soy sauce, misoshiru, and tofu originally came from China in the 7<sup>th</sup> and 8<sup>th</sup> centuries, as the vegetarian accompaniment to other Buddhist practices. Like other early imports from China, Buddhism and vegetarianism fell largely in the domain of the hereditary nobility. Bean products took on a wider and more secular clientele with the rise of a 19<sup>th</sup> century bourgeoisie, but only the arrival of cheap, plentiful Manchurian beans made soy products into the cheapest source of protein for all classes, as well as replacing fish refuse as the fertilizer of choice.

While the population of Japan rose 50 percent between 1890 and 1925, the production of soy sauce tripled in the same period.<sup>22</sup> Soybeans became Japan's fourth largest import after iron, coal and cotton. At the level of taste, Japan and the Japanese developed an addiction to Manchuria and its chief export. The Siberian expedition that allowed Tokyo to influence surreptitiously the direction of export flow out of Manchuria would soon give way to more direct methods under Manchukuo's puppet government. Only forced separation from this market following defeat in 1945 would end Japan's fifty-year romance with the Manchurian bean, as well as her fifty years of involvement in the continental affairs of Northeast Asia.

But the Chinese continue to bristle at even a suggestion that the Japanese wish to forget their historical aggressions in Manchuria. Although Yasukuni, Nanjing and Unit 731 are more often the subject of discussion, Chinese Communists have not forgotten that the economic explanation, the only acceptable one for good Marxists, for Japanese expansion into Manchuria is soybeans. On November 17, 1968, the Prime Minister of the Democratic Republic of Vietnam (Communist) visited Mao Zedong at his home in the leadership compound Zhongnanhai. Pham reported to Zhou Enlai, who was also present, regarding the Paris peace negotiations with the United States. Then the conversation wandered:<sup>23</sup>

Pham Van Dong: How are you, Chairman Mao?

Mao: Not very well. I have had a cough for some days. It is time to go to Heaven. It seems I am summoned to meet the Good Lord. How is President Ho?...

Mao: I still have not understood why the US Imperialists went to Southeast Asia and what interests the American capitalists found there. Exploitation of natural resources? Of course, the region is rich in natural resources. Oil, rubber in Indonesia. Rubber in Malaysia. Is there rubber in your country?

Pham: Plenty.

Mao: Rubber and tea. But I do not think that the US needs food or plants.

Pham: The US is looking further than that when fighting in Vietnam.

Mao: They fight in the South, but target the North and further China. They are not strong enough to target other areas.



Pham: But they are imperialists.

Mao: Of course, imperialists must have colonies. They want countries like ours to become their colonies. Before, China used to be a semi-colony of imperialists for over 100 years. What did they rob us of?...

Zhou: They robbed resources.

Mao: What resources?

Zhou: Soybeans.

Japan, however, was not required to go "cold turkey," but rather turned its appetites toward an agricultural power, the United States, whose soybean prowess had grown largely unnoticed until it replaced Manchuria as the world's foremost producer during World War II. Immediately on the heels of the American-brokered Treaty of Portsmouth that ended the Russo-Japanese war, the US Department of Agriculture's Division of Plant Exploration and Introduction had dispatched an "agricultural explorer," Frank Meyer, to China. The resultant collection of over 2000 samples included 101 soy products and the comment : "I must admit that it will take some time for the white races to acquire the taste of the very large majority of these products." Meanwhile, American policy aimed at preserving the bean-related balance between Russia and Japan in Northeast Asia. The American engineer in charge of the Allied Technical Board appointed to run the CER between 1918 and 1922, John Stevens, later commented on his work that : "I may be supposed to know what I was there for. And I am very free to say however egotistical it may sound, that after matching wits for four long years – secretly of course – I prevented the Japanese from taking the CER." <sup>24</sup> The United States was well aware of the soybean's role in the regional balance of power.

Although the United States took up much of the slack in European imports of soybeans from Manchuria during the blockades of World War I, this would be America's only experience as an importer. By 1920, the million bushel production mark had been reached and by 1930, ten million came mainly from the Corn Belt of Illinois, Iowa, Indiana, Missouri and Ohio. In 1932-33 Henry Ford's Dearborn chemurgy farms planted 200-300 varieties of soybeans in the search for plant-based substitutes for metal car parts. A byproduct was a better knowledge of the varieties and expanded agricultural production outside the Corn Belt. In 1946, US production broke 200 million bushels. By the early 1970s over 500 million bushels were being grown in 20 states, representing 80% of the world market. <sup>25</sup>

By the time Japan was defeated in 1945, United States soybean production was already sufficient to replace Manchuria's earlier output. Recently declassified diplomatic documents reveal how important Japanese statesmen considered a reliable food supply for a general security framework. For example, on January 31, 1973, Sato Eisaku, just out of office as Prime Minister of

Japan, visited with President Richard Nixon in the Oval Office. Aside from thanking the President for dancing with Mrs. Sato at the Inaugural Ball, Sato also expressed an opinion with regard to the final stages of the Vietnam peace process that "neither the USSR nor the PRC had been able to react to the bombing of North Vietnam because of their reliance on the United States for food supplies." A few months later, faced with the oil crisis the United States unilaterally instituted export controls on oil-bearing soybeans. This caused an uproar in Japan, where the word "ban" was widely substituted for "controls," and the whole affair supposedly weakened the new Prime Minister Tanaka Kakuei's "pro-American stance." A November 1974 State Department Briefing Paper suggested that the President in upcoming talks play down the actual impact of the controls, while assuring that "Close US-Japanese consultation and cooperation in the field of agricultural trade continues to be essential... The US intends to remain a reliable supplier of agricultural commodities to Japan."<sup>26</sup>

Many have even named this episode the "third Nixon shock" in reference to the July and August 1971 announcements of Nixon's upcoming visit to China and the end of the gold standard, respectively. All three decisions were taken without prior consultation with or warning to the Japanese and heralded a turn towards a more adversarial alliance.<sup>27</sup> Thus, one could even argue that provision of soybeans is one of the terms in the US-Japanese relationship, an agreement that allows the United States to participate fully in the maintenance of influence and stability in the Far East. As a key participant in the post-war regional soybean calculus, the United States has taken one further step towards a Pacific destiny.

The Japanese sensitivity to soybean dependence would, however, catalyze the next great expansion of the world market for soybeans. Brazil now produces 66 million tons a year. Both Brazil and Argentina now surpass the United States as exporters, mainly to Europe. The abovementioned State Department briefing paper noted that "Japan has already undertaken efforts to become more self-sufficient in food production and to diversify foreign sources of supply (soybeans from Brazil, rice from China, wheat from Canada, etc.)."<sup>28</sup> Brazil's production totals had already been increasing from 680 thousand tons in 1968 to five million in 1973, but in the next two years, they doubled again.<sup>29</sup> About this time, the Japanese International Cooperation Agency (JICA) began preliminary studies for a program to develop Brazilian soybean production, that would function under the acronym PROCEDER. It would run for 21 years, JICA's longest ever, only ending in March 2001. In addition to 70 billion yen in low-interest loans to start up mechanized soy farms, JICA provided 3.5 billion yen in research funds, training and equipment, in order to develop technical know-how.

Most importantly, the joint Japanese-Brazilian teams developed new soybean varieties that

would flourish "in subtropical regions and regions near the Amazon." With the new varieties, soy cultivation moved north towards the equator and into the Amazon proper. Although the Japanese program is officially limited to the "Cerrados," a savanna-like area previously used only for cattlegrazing, it turns out that when rainforest is cut down, the barren remains become "cerrados" and therefore eligible for soybean planting. In the decade between 1994 and 2003, 19 million hectares of rainforest were cleared. In the same period, soybean acreage increased by 11.7 million hectares. Environmentalists say that spiraling soybean demand ( up 80% between 1990 and 2003) is destroying the Amazon, while the agrobusiness executive who is also governor of Mato Grosso, a Brazilian province on the edge of the Amazon, says there is room to quintuple production in the next three years and still have lots of forest remaining. The Amazon will not disappear in a day, but neither will the ever increasing demand for soy products. The same triangular staple growth cycle (illustrated above) that destroyed the forests of Manchuria is now at work in the Amazon. The final result is not hard to predict.

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<sup>1</sup> The late Professor Shuji Yoshida of the National Museum of Ethnology in Osaka states that "the primary center of origin of cultivated soybeans is problematical." In his keynote speech to the Asian Symposium on Non-Salted Soybean Fermentation held at Tsukuba, Japan in July 1985, his words suggested North China, but his maps suggested a point further south. He does conclude that at an early date, Manchuria became a "secondary center" from which soybeans were disseminated to Korea and Japan.

<sup>2</sup> On region construction, see the essays by Bruce Cumings, Arif Dirlik, and Alexander Woodside in Arif Dirlik, ed., What is in a Rim?: Critical Perspectives on the Pacific (Boulder, CO, 1993) as well as David Wolff, "Russia, Regionalism and Northeast Asia" in Stephen Kotkin and David Wolff, eds., Rediscovering Russia in Asia (Armonk, NY, 1995), 323-29.

<sup>3</sup> For the methodological sorting of units of analysis implicitly used here for purposes of "region construction," see Terence Hopkins and Immanuel Wallerstein, "The Comparative Study of National Societies" Social Science Information 6(5) (1967): 25-58.

<sup>4</sup> For the diplomatic and bureaucratic moves from the Russian side, see the magisterial Boris Romanov, Rossiia v Manch'zhurii (Leningrad, 1928).

<sup>5</sup> Robert H. G. Lee, The Manchurian Frontier in Ch'ing History (Harvard, 1970), 103.

<sup>6</sup> Joseph Esherick, The Origins of the Boxer Uprising (Berkeley, 1987).

<sup>7</sup> Kang Chao, The Economic Development of Manchuria : The Rise of a Frontier Economy (Ann Arbor, MI, 1982), 6, 9. Also see, Kungtu Sun (assisted by Ralph Huenemann), The Economic Development of Manchuria in the First Half of the Twentieth Century (Cambridge, MA, 1969).

<sup>8</sup> The local dynamics of soybean agriculture and the peasant farmers, whose labor had converted Manchuria from a wilderness into a grain basket, is ably covered in Nishimura Shigeo, Chugoku kindai tohoku chiikishi kenkyu (Kyoto, 1984), 76-88

<sup>9</sup> Ayumu Yasutomi, "Regarding the Specific Actions of Tree Structures and Network Structures" Kan 10(2002), 183-189.

<sup>10</sup> Kohei Ishida, Manshuniokeru shokuminchikeizai no shitekitenkai (Kyoto, 1964). From 1939 until 1943, Ishida had served as a professor at Kenkoku Daigaku, the national university of Manchukuo, so he knew his topic well.

<sup>11</sup> Ueda Takako, "Kindai chugokudongbeichiikiniokeru kajinshokogyojibenno kenkyu" (Ph.D. Dissertation, Osaka University of Foreign Languages, 2002). A very useful diagram on page three of the appendices adds a dynamic dimension to the models previously proposed by Ishida.

<sup>12</sup> In Russia, the idea of the "liberal" colony is closely connected with religious tolerance, but in the double sense of liberal. As a political term, liberal implies an increase in individual rights, including that of religion. As an economic term, it encourages the free operation of the market without intervention by the visible hands of the state and its bureaucrats. Jews at Harbin enjoyed liberalism in both senses, as they prayed in their temples and developed the grain markets that would make the CER profitable.

A similar process had taken place earlier in Central Asia, where the first governor-general of the region K.P. Kaufman, had notified his Petersburg superiors in 1879 that "one must take into consideration that the Jews here in Central Asia are not parasites; they do not exploit the population; they are a productive class, hard at work." In fact, they played a crucial role in the development of the cotton industry and the export of its product to Moscow. On this, see A. Kaganovich, "Rossiia 'absorbiruet' svoikh evreev" Ab Imperio 4(2003), 301-328. Citation from the Central Historical Archives of Uzbekistan (Tashkent), f.1, op.16, d.1406, l.8-9.

<sup>13</sup> David Wolff, To the Harbin Station : The Liberal Alternative in Russian Manchuria, 1898-1914 (Stanford, CA, 1999), Chapter 3 covers colonization and religious policy. Chapter 5 and the appendix include the role of Russian sinology in relations with the Chinese.

<sup>14</sup> *Ibid.*, Chapter 2 for the ties between Japanese perceptions of the Trans-Siberian and the outbreak of war. Chapter 4 covers the role of Harbin, where the Russian Quartermaster-General was located, in the war.

<sup>15</sup> D. Vul'f, "Evrei Manchzhurii: Kharbin, 1903-14 gg." Ab Imperio 4(2003), 266.

<sup>16</sup> Norman Shaw, "The Soya Bean" (Tianjin, 1911), 1.

<sup>17</sup> Alexander Hosie, Manchuria : Its People, Resources and Recent History (London, 1904), 245

<sup>18</sup> In addition, most uncolonized areas which might come under bean cultivation were located in northernmost Manchuria, giving the CER added geographic advantages. Severnaia Manchzhuriia i KVZhD (Harbin, 1924), 52. A map showing the vast emptiness of this area is on page 12.

<sup>19</sup> Kinosuke Adachi, Manchuria : A Survey, (New York, 1925), 271.

<sup>20</sup> A classified (hi) report of the Harbin office of the SMR's Research Bureau details the many meetings and agreements between the SMR and CER in this period. See Mantetsu Chosabu, Toshi tetsudo kabutsuunchin kenkyu (Research on CER Commodity Transport Tariffs), (Harbin, 1925).

<sup>21</sup> Chinese Eastern Railway Economic Bureau, North Manchuria and the Chinese Eastern Railroad, (Harbin, 1924), 111; The level of detail at which the Japanese researched Vladivostok trade and its ties to Manchuria can be seen in Mantetsu Chosabu, Sujijo yori mitaru Urajisetoku shoko (Vladivostok Commercial Port in Numbers), (Harbin, 1926)

<sup>22</sup> W. Mark Fruin, Kikkoman, (Harvard, 1983), 40. Naomichi Ishige, The History and Culture of Japanese Food (London, 2001), 115, suggests that soy sauce became the "predominant and universal seasoning today...over a period of more than two centuries," but the Kikkoman data suggests that the shift from "predominant" to "universal" took place within the space of one long generation.

<sup>23</sup> " 77 Conversations between Chinese and Foreign Leaders on the Wars in Indochina, 1964-77 " Cold War

International History Project Working Paper No.22 (DC, 1998).

<sup>24</sup> John White, The Siberian Intervention, (Princeton, 1950), p.134, citing the Stevens' papers at the Hoover Institution.

<sup>25</sup> Klare Markley, ed., Soybeans and Soybean Products, v.1, (New York, 1950), 138-9.

<sup>26</sup> Declassified materials held in the National Security Archive Japan collection at George Washington University, Gelman Library, 7<sup>th</sup> Floor.

<sup>27</sup> Then Treasury Secretary (later Secretary of State) George Shultz linked two of the three "shocks" in 1973 when he jokingly told a group of Chicago businessmen that if the price of soybeans continued to rise, "we could go over to the soybean standard."

<sup>28</sup> National Security Archive Japan Collection.

<sup>29</sup> Nakamura, Daizu no keizai (1976), 52.

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