Polycentric East Asia: Japan's Colonial Science Legacy in its "Heaven, Earth, Human (天地人)" and Industry

TSUKAHARA, Togo

(Citation)
ICHSEA 2019:139-173

(Issue Date)
2019-08

(Resource Type)
conference object

(Version)
Version of Record

(URL)
https://hdl.handle.net/20.500.14094/90007905

August 22 (Thu.)

ThA1

Polycentric East Asia: Japan's Colonial Science Legacy in its "Heaven, Earth, Human (天地人)" and Industry (I) Part 1. The Heaven (天)

Organizer: Togo Tsukahara (Kobe University)

This is a first part of two series of sessions (1) Heaven, Earth, Human and (2) Industry, we explore historical legacy of Japan's colonial sciences in East Asia. We investigate history of East Asian Science in the last century from broader perspective. Our panel encompasses several case studies of history of sciences, colonial technology and development projects, its encounter and conflicts with indigenous medicine and knowledge system. It will be investigated from the viewpoint of different disciplines and practical contexts. We examine them from the several angles of different subjects/objects, and actual societal/political endeavors and enterprises in and around, and before and after, Japan's self-claimed "Great East Asian Co-Prosperity Sphere". In doing so, our challenge is to contextualize East Asian specific features. Colonial sciences are used to have been analyzed in terms of such frameworks as Center-Periphery model, racial dominance, Hegemony-Subordinate relationship, technology-determinism, Local-Cosmopolitan matrix, and circulation of knowledge. But in this occasion of our 15th ICHSEA, we regard East Asia as poly-centric entity. As this poly-centricity is a general key conception for our conference, that we try to examine this in our series of sessions: How we see East Asia as poly-centric in colonial sciences; we try to show where, when, and what were the historical events and thoughts that different centric forces functioned, which they might have pulled different factors together and/or they fall each factors apart. As session (1), we examine Japan's colonial sciences related to Heaven and Earth, (pure physics, typhoon observation, and air monitoring for the first three speakers), and Human (mainly on the knowledge about life and medical practices for the last three speakers).

Polycentric East Asia: Japan's Colonial Science Legacy in its "Heaven, Earth, Human (天地人)" and Industry (I) Part 1. The Heaven (天)

ThA1-1

Realigning Typhoon Network: Ryukyu Islands and Typhoon in Early Cold War Period

Takuya Miyagawa
Hiroshima Shudo University

Soon after the US force overwhelmed Japan's resistance in Ryukyu (Okinawa) islands May 1945, they started atmospheric observation at Kadena air base for the support of bombing operations to mainland Japan and for the protection of their fleets and landing force from typhoon attacks around Ryukyu islands. The US authorities became quite aware of the necessity of constructing disaster prevention system as soon as possible, since the US fleet had experienced severe typhoon attack in July 1945 and they witnessed tropical storms annually caused a huge number of casualty and economic damage during the ruling period of Ryukyu. Building the Pacific meteorological network emerged as a crucial issue for the occupying authorities to reconstruct the double suffered Ryukyu that was ravaged by the war and natural disasters, and to establish the Western Pacific strategy in the early stage of the postwar world. It was one of the reasons why they established Ryukyu Weather Bureau in 1950 to let the Ryukyuan conduct daily observation and weather forecast. The Ryukyuan meteorologists who sought to rejoin to the mainland Japanese network were expected to play a mediating role for predicting and sharing typhoon information as the in-between actors of the US and Japan. This paper examines the meteorological project in the postwar Ryukyu in which three positions were entangled. How did typhoons influence the US policy on Ryukyu? What significance did the reorganized typhoon network have in the US Pacific strategy? And what roles did the Ryukyuans play in resetting up weather service in their hometown and in building the typhoon network in postwar East Asia? This paper investigates the rebuilding process of Ryukyu observational system in the relations with American, Japanese, and Ryukyuan strategy and policy in the early Cold War regime.

ThA1-2

Factories, Automobiles, and Lungs: Development of The Air Monitoring in Japan

Akihisa Setoguchi
Kyoto University

This presentation examines the history of air monitoring in Japan and discusses the relationship between the human body and environment in a technoscience society. In Japan, technology that monitors the air began to be developed in the 1920s. Physiologists at the Institute for Science of Labor, which was established in 1921, developed instruments that measure the air in factories. In addition, chemical engineers in the 1950s established safety engineering as a new discipline and developed methods to measure air that affects human health. Their methods became prevalent in closed spaces such as chemical factories with harmful gases and coal mining where explosive accidents deprived numerous lives. These technologies spread far beyond factories to the outdoor after the 1960s, when automobiles became popular in Japanese society. In automobile society, every person could be either cause or victim of pollution and accidents. Former physiologists began to study the atmosphere, which had been polluted by automobile exhaust gas. In streets, the air in drivers' lungs was also monitored because drunk driving accidents became a serious problem. This presentation explores the role of monitoring in a society in which humans and machines constitute a large technological complex.

Polycentric East Asia: Japan's Colonial Science Legacy in its "Heaven, Earth, Human (天地人)" and Industry (I) Part 1. The Heaven (天)

ThA1-3

Environmental Factors in Modernized Empire: Japan's Agricultural Meteorology in Early 20th Century, A Controversy and its Ecological Context

Togo Tsukahara
Kobe University

In this paper, I would like to discuss connection between histories of meteorology, agriculture and environment of Japan, especially on a controversy in agricultural meteorology.
It was a series of poor harvest years by cold weather in the North-East Japan that became serious problem in 1900s. Tasks to agricultural meteorologists are assumed as the prediction of cold summer.
There are struggles and controversy among them. Some have inferred it as caused by cold ocean stream (Seki, 1907), while others insisted there is a certain "periodicity" of cold weather (Tamari, 1911). Long remaining Siberian High Pressure was supposed to be the reason of Japan's cold summer (Tsukiji 1914). Ando (1914) argued that cold summer was caused by sea-ice floating ashore from Sea of Okhotsk. Also in 1914, Okada discussed this with then newly proposed papers by Gilbert Walker and other European theorists. Despite those efforts, it was not easily solved, and a series of bad harvest actually was exacerbated around the time of Great Depression in the end of 1920s. The solution Japan has chosen was not scientific but Imperial: seeking a new "Lebensraum", acquisition of new sphere of environment. Hantingtonian geography of eugenics became popular in 1930s, and research in colonial agriculture both in Northern and Southern territories mashroomed, such as sugar cultivation in Taiwan, and advanced and mechanized agriculture in Manchuria. I re-examine this controversy and its consequences, and point out different elements: rice as the Japanese farmer's "identity crops" and changing style of modern agriculture (especially introduction of US method in Northern Japan); colonial demand of new agronomy in new territories; shift of agricultural diversity in traditional farming to higher productivity by modern colonial monoculture.

Polycentric East Asia: Japan's Colonial Science Legacy in its "Heaven, Earth, Human (天地人)" and Industry (I) Part 1. The Heaven (天)

ThA1-4

"Beat Those Yattya Bottya People": Nurturiing Pure Science in Prewar Japan, The Case of Nuclear Physics

Takuji Okamoto
Department of History and Philosophy of Science, The University of Tokyo

Main concerns of the Japanese Government right after the Meiji Restoration were understood to be transforming the country into an independent nation-state and strengthening its industry and military for that purpose. It considered introducing and assimilating Western science and technology as a crucial step for accomplishing its national goal. Though the effort in this practical line brought tremendous success, the field in which Japanese scientists enjoyed distinguished international praise (e.g., a Nobel Prize) for the first time was theoretical nuclear physics: a field remote from technological application.
Apart from national concerns, scientists in this country kept nurturing "pure science" and established it as their tradition. The physicist Hantaro Nagaoka (1865-1950) recognized science as an arena for universal intellectual fight and challenged the Westerners in this field by publishing his atomic model in 1903. Though younger physicists did not always share this competitive view of science, Nagaoka's way of accepting science as a set of rules for expressing intellectual pride led to his encouragement and support for challenges by the Japanese scientists in the newly emerging fields, such as electron theory, relativity theory, or quantum physics. Hideki Yukawa lived up to Nagaoka's expectations by enjoying worldwide attention to his meson theory published in 1934, while Yoshio Nishina managed to construct a 60-inch cyclotron as a step toward verifying "Japanese theory" by "Japanese experiments." Yukawa's Nobel Prize in 1949 may not be regarded as a fruit of the Japanese research tradition, but as a result of the Japanese morale tradition, which at the same time showed that non-Westerners' intellectual challenge could win a worldwide intellectual game, and that science, especially pure science, could function as an arena for such a game.

ThB1-4

Transcultural *Materia Medica* : The Entanglement of Pharmaceutical Knowledge and Matters in The East Asian World, 1780s-1940s

Organizer: Xiaomeng Liu (The University of Hong Kong)

Historians of medicine used to believe the East Asia shared one medical tradition and similar pharmaceutical materials that were first developed in China and then transmitted to other countries. However, recent studies on the local reinvention and appropriation of knowledge had put this claim into question. Knowledge not only moved across borders, but also constituted and reconfigured during the movement. By inquiring into the transcultural processes, this panel emphasizes the production and transmission of natural and pharmaceutical knowledge in the movement of people, materials, and practices. We consider the East Asian World neither as a cultural homogenous area nor a simple colligation of several geographically tied countries, but a fluid entity constituted by dynamic and constant transcultural exchange of human experiences and material connections. The *materia medica*, as an exceptional commodity bearing economic, therapeutic, and cultural values, is the lens through which we are trying to observe this dynamic process. This panel brings together four papers focusing on interrelated topics on the pharmaceutical knowledge and practices in East Asia. The first two papers probe into the question that how certain objects and their understanding was shaped and transfigured in the transcultural exchange. Xiaomeng Liu's paper explores the making of a exceptional illustrated work of *materia medica* through the informal ties between Qing China and Tokugawa Japan. Xin Xing uses the assimilation of *Ikkaku* in early modern Japan to showcase the exchange of knowledge between the east and the west. The other two papers locate their exploration in the (post)colonial context. Meng Zhang's study sheds light on a neglected project, the pharmacopoeia of Manchukuo, in the

ThA2

Polycentric East Asia: Japan's Colonial Science Legacy in its "Heaven, Earth, Human (天地人)" and Industry (II) Part 2. The Earth (地)

Organizer: Togo Tsukahara (Kobe University)

This a second part of two series of sessions (1) Heaven, Earth, Human and (2) Industry, we explore historical legacy of Japan's colonial sciences in East Asia. In order to investigate history of East Asian Science in the last century from broader perspective, we examine industrial aspects of history of science. In doing so, our challenge is to take a closer look into the East Asian specific features. As the first part of our session discussed, in this occasion of our 15th ICHSEA, we consider East Asia as poly-centric entity. As this poly-centricity is a general key conception for our conference, that we try to examine this in our series of sessions: How we see East Asia as poly-centric in colonial sciences; we try to show where, when, and what were the historical events and thoughts that different centric forces functioned, which they might have pulled different factors together and/or they fall each factors apart. We think it is able to stipulate this conception, when we analyze Japan's Imperial expansion, because it was one of the most peculiar historical events have shown diversified (thus poly-centric) aspects of East Asia to us. We are able to show some cases, that even seemingly centric Empire, Japan's Imperialism was in some cases much diversified and segmented, sometimes in inside they are conflicting to each other and contested within itself. In this session (2), we examine Japan's colonial sciences related to different branches of industries. The first two speakers, Fujihara and Tsukahara will discuss about agricultural science and technology, and its industrial connotation. Moore discusses about Korean development in Park Era, while Erikson examines patent law and industrial right. Boumsoung Kim analyses transpacific scientific research, and its transformation.

Polycentric East Asia: Japan's Colonial Science Legacy in its "Heaven, Earth, Human (天地人)" and Industry (II) Part 2. The Earth (地)

ThA2-1

American Chickens Versus Japanese Silkworms: A Transformation of Scientific Research Across The Pacific

Boumsoung Kim
Hiroshima Institute of Technology

In this presentation, I will explore how new scientific knowledge is relocated into local contexts. As William Boyd pointed out, in the United States in the early twentieth-century, indoor poultry farming for the purposes of the mass production of meat created the side effect of mass-produced indoor-grown chickens developing weakened legs. Research scientists found, in fact, that this disease was not caused by germs (as originally thought), but by other factors - and in the process discovered the beneficial effects of vitamin D and ultraviolet light on chicken health. It was in the 1920s, despite the age of racism that this new scientific knowledge swiftly traveled across the Pacific Ocean and appeared in a Japanese poultry- business magazine.

Intriguingly, Japanese interests in invisible ultraviolet rays were transformed in another way, putting a spotlight on silkworms. During the golden age of the raw silk industry in Japan when the silkworm was regarded as "one of the most important animals in Japan," sericulture experts in the Japanese Empire of the time (including Ung Sang Kye, who would become a scientific icon in North Korea), hoping for beneficial effects, studied the impact of ultraviolet light exposure on silkworms, which was ultimately found to be impractical.

Polycentric East Asia: Japan's Colonial Science Legacy in its "Heaven, Earth, Human (天地人)" and Industry (II) Part 2. The Earth (地)

ThA2-2

Rereading Japanese History Through The Lens of School Lunches

Tatsushi Fujihara
Kyoto University

My presentation aims at explaining three key points of history of school lunches, namely:
First, the history of the Japanese school lunch is a process involving struggles and measures to help fight hunger and poverty among children. From the birth of the school lunch to the present, it has been a fundamental programme that has shaped children, education, and the country from the viewpoints of nutritional science. As with many modern nation states, in the case of Japan, widespread elementary education began in the early 20th century, and providing school lunches has been an important element in ensuring that all children, regardless of financial status, have access to education.
Second, school lunches are a measure to recover from disasters, for example, the Kanto Earthquake (関東大震災), cold weather (冷害), typhoons and the like. Saiki Tadasu, who was one of the first scholars of dietetics (栄養学) in the world and the director of the Institute of Nutrition, advised the governor of Tokyo to introduce a school lunch system in the city for the relief of children who had lost their parents and houses.
And third, after the Second World War, the GHQ (General Headquarters), which was led by Douglas MacArthur, tried to institute school lunch programmes all over the Japanese archipelago. The goal was to prevent hungry citizens from engaging in food riots, such as the Rice Riots during the Taisho period and the food riots during the First World War in Russia and Germany. Thus, for the GHQ, school lunches were a way of both saving children from the nutritious point of view and maintaining peace in Japanese society after the war.

Polycentric East Asia: Japan's Colonial Science Legacy in its "Heaven, Earth, Human (天地人)" and Industry (II) Part 2. The Earth (地)

ThA2-3

Colonialism Reconfigured: Militarized Development and The Construction of South Korea's Power Infrastructure During The Park Chung-hee Era

Aaron Moore
Arizona State University

Until now, the "miracle of the Han" has been the narrative that has framed work on Korean industrialization during the Park Chung-hee era. Such a narrative privileges the nation as the primary unit of economic development. Largely missing from these accounts is an analysis of the transnational flows of capital, ideas, people, goods, and technology that formed the basis for post-war Korean development and the new international power relationships that were formed within these flows. These flows emerged out of entangled histories of Japanese colonial rule and the rise of the US Cold War order in East Asia.
This paper focuses on the Soyanggang Multi-Purpose Dam project (1967-1973), a prominent symbol of Park Chung-hee's development policies in South Korea. The project's supervisor, Nippon Kōei, was established by colonial engineers who had formerly worked in Korea under Japanese rule. These same engineers were contracted by Park's government to supervise the construction of South Korea's hydropower infrastructure, including Soyanggang.
By focusing on Soyanggang, I examine how the Park government's exchanges with Japanese experts and their ideas reshaped Japanese planning conceptions and earlier colonial policies into militarized development at large-scale infrastructure projects. I examine some key Japanese colonial institutions and policies that were reintroduced through this project such as forced labor and the resettlement of nomadic farmers. Moreover, I analyze the local effects and responses to Park's reconfigured form of colonial development.

Dam → heat Reserve/ Cold.
↓
fog.

ThA3

Polycentric East Asia: Japan's Colonial Science Legacy in its "Heaven, Earth, Human (天地人)" and Industry (III) Part 3. Human (人)

Organizer: Chang-Geon Shin (Tokyo University of Science)

We investigate history of East Asian Science in the last century from broader perspective. Our serial panels encompasses several case studies of history of sciences, colonial technology and development projects, its encounter and conflicts with indigenous medicine and knowledge system. It will be investigated from the viewpoint of different disciplines and practical contexts. We examine them from the several angles of different subjects/objects, and actual societal/political endeavors and enterprises in and around, and before and after, Japan's self-claimed "Great East Asian Co-Prosperity Sphere." In doing so, our challenge is to contextualize East Asian specific features. Colonial sciences are used to have been analyzed in terms of such frameworks as Center-Periphery model, racial dominance, Hegemony-Subordinate relationship, technology-determinism, Local-Cosmopolitan matrix, and circulation of knowledge. But in this occasion of our 15th ICHSEA, we regard East Asia as poly-centric entity. As this poly-centricity is a general key conception for our conference, that we try to examine this in our series of sessions: How we see East Asia as poly-centric in colonial sciences; we try to show where, when, and what were the historical events and thoughts that different centric forces functioned, which they might have pulled different factors together and/or they fall each factors apart. We think it is able to stipulate this conception, when we analyze Japan's Imperial expansion, because it was one of the most peculiar historical events have shown diversified (thus poly-centric) aspects of East Asia to us. We are able to show some cases, that even seemingly centric Empire, Japan's Imperialism was in some cases much diversified and segmented, sometimes in inside they are conflicting to each other and contested within itself.

ThA3-1

Reshaping The Empire's Laborers into Cold War's Primitive Bodies: Haenyeo and Ama Studies in Korea and Japan, 1932-1975

Jaehwan Hyun
Max-Planck Institute for the History of Science

The female diver communities (海女, *Haeyneo* in Korean and Ama in Japanese) have been spotlighted as living cultural heritages of humanity, which are valuable but endangered. The idea of endangered *Haenyeo* and Ama originated in anthropological studies of the Japanese Empire and was taken over by U.S.-led physiological research after World War II. This paper explores how the colonial research in *Haenyeo* and Ama studies was revitalized in the new political, social, and scientific context during the Cold War period. At the outset, in the 1930s, physical anthropologists and medical physiologists were keenly interested in studying the biological properties of "nature's daughters" (die Töchter der Natur) to improve the productivity of fishery labor at the dawn of the total national mobilization regime. Two decades after the Pacific War (1941-1945) ended, the US Navy became interested in the diving capability of the women diver groups for military purposes and to support research projects on this subject. At the time, American human biologists also started promoting diverse international cooperative projects to collect biological data on the world's vanishing people. In the shadow of possible nuclear devastation, the belief that "primitive" people and their survival traits for adapting to harsh environments were in danger due to rapid modernization in post-colonial nations was a driving force in global scientific initiatives. In this context, *Haenyeo* and Ama studies newly flourished from the 1960s onward. Examining two American-Japanese-Korean cooperative projects initiated by Hermann Rahn (1912-1990), Suk-Ki Hong (1928-1997), and Syôiti Kobayasi (1919-1983), this paper illuminates how these scientists studied *Haenyeo* and Ama's physiological traits to aid human survival in a future environmental crisis even while they strengthened the idea of the primitiveness of these women's bodies.

ThA3-2

Bacteriological Practices and Debates at The Time of Cholera Outbreaks in The Japanese Empire in The 1890s

Shiori Nosaka
École des Hautes Études en Sciences Sociales

Outbreaks of cholera disease in the second half of the nineteenth century in Japan brought not only a social impact of epidemics upon the society but also a concern of the new state over disease controls at the maritime border as well as within the territory. The government attempted to improve the health security with hygiene practices and public actions such as disinfection and isolation. In the 1890s the rise of bacteriological thoughts and its specific research methods, focusing on microbes and knowledge produced in the laboratory, resulted in a reorganization of hygiene regulations, introducing especially bacteriological diagnosis, experimental use of serum, and specific disinfection methods. However, this account focuses only on the outcome of control measures and thus dismisses two historical dynamics of this period: the debates on these measures, provoked by various medical actors, such as kanpô physicians, private practitioners trained in Western-styled medical schools, health inspectors of police, bureaucrats, and military physicians; and the co-evolution between the formation of bacteriology as a discipline and the expansion the of Japanese Empire, especially the first Sino-Japanese War and colonization of Taiwan. By following cholera control measures, epidemiological and bacteriological research, and debates on cholera outbreaks in the Japanese Empire, this paper will show how medical practitioners acted in the time of transition of medical authorities during cholera outbreaks, and on what the government conceived bacteriological methods as effective measures against cholera. It aims to describe a political and intellectual history of Japanese medical bacteriology, of which historians have often focused on its institutional aspect. It will help to rethink a framework of the early Japanese bacteriology within a landscape of the Japanese Empire.

Polycentric East Asia: Japan's Colonial Science Legacy in its "Heaven, Earth, Human (天地人)" and Industry (III) Part 3. Human (人)

ThA3-3

Industrial Aquaculture's Imperial Moment: The Rise and Fall of Gokasho Pearl Farm, 1920s-1930s

Kjell Ericson
Kyoto university Graduate School of Letters

The early twentieth century was a pivotal time for ideas of industrial agriculture. Fordist and Taylorist models of factory production took form not just on the shopfloor, but also in the field. Elsewhere in the imperial world, plantation cultivation proved durable as an ideology of centralized governance, even in the face of smallholder challenges. This paper argues that early twentieth century ideas of industrial cultivation extended deep into saltwater. A trans-imperial focal point of this line of thinking was in coastal Japan: the Mikimoto company's Gokasho Bay pearl farm, easily the largest facility for the surgical manipulation and raising of pearl-bearing shellfish in the interwar world. Amid global controversy over the naturalness of "Japanese cultured" pearls, various colonial officials and entrepreneurs saw in Gokasho an industrial model for export cultivation along other shores. The cultivation of pearls appealed most to fisheries officials and other boosters in France and America, respectively the world's largest entrepôt and largest consumer market for pearls. In the interwar French and American imperiums, Gokasho was an example of Japanese saltwater improvement that might be improved further if transferred to waters in Polynesia or Hawaii. Visions of industrial pearl cultivation proved to be short-lived; dreams of recreating Gokasho, along with the farm itself, have faded from view. Yet in another sense, Gokasho's imperial moment emerged from a common ferment of industrial ideas that were shaping both land and sea--and which persist along cultivated coastlines in our current age of "Blue Revolution."

Polycentric East Asia: Japan's Colonial Science Legacy in its "Heaven, Earth, Human (天地人)" and Industry (III) Part 3. Human (人)

ThA3-4

Forming A United Front Against Western Medicine: Medical Scientists and Kampo Doctors in Japan's Wartime

Chang-Geon Shin
Tokyo Institute of Technology

In this presentation, I would like to discuss about presenting a united front between western medical scientists and Kampo doctors in Japan's wartime. The outline of my questions is as follows: (1) Why and how did they form a joint front against western medicine to construct "Japanese Medicine (Nippon-Igaku 日本醫學)"? (2) What was the newness of this collaboration? (3) Who were the leading figures of the "Japanese Medicine" movement? and (4) What is the difference between the insider and the outsider Kampo doctors of this movement?

To consider these problems, this presentation focuses on the Research Society for Japanese Medicine (日本醫學研究會), established in 1935. It is the first active society to be established by western medical scientists and Kampo doctors in Japan, in which famous university professors and western medical clinicians took part. Until now, the close relationship between pharmacology and traditional medicine have been pointed out. In addition to famous pharmacologists and Kampo doctors, it is remarkable that some physiologists, physicians and radiologists played important roles in this society.

This presentation examines a physiologist Kunihiko Hashida (橋田邦彦) and a physician Takeshi Itakura (板倉武), who both belonged to the School of Medicine at Tokyo Imperial University. Almost pharmacologists, who participated in "Japanese Medicine" movement, appreciated the usefulness of Kampo drugs. But Hashida and Itakura were different from them. I would like to discuss about the relationship between Hashida's physiology and "Japanese" medicine, and the relationship between Itakura's therapeutics and Kampo art.

Technology as a System: Cases from Modern Japan and Korea

ThB3-1

From The One-side Records to The Two-sides Records and The Consequences for The Early Japan Recording Industry

Caroline Boissier
Aoi Bunka

During the 19th century in Europe and the New World, scientific research on sound recording and phonography (the means of recording a voice as fast as people can speak) created rivalries and competitions between Thomas Edison (1847-1931)developing his phonograph (using cylinders), and Emile Berliner (1851-1929) developing his gramophone (using records). As a result of these developments, the companies of the newly created music industry quickly developed in the world, especially in Russia, Canada and Asia (China, Singapore and Japan). In1896, an American trader, Frederic Whitney Horn (1868-date of death unknown) arrived in Japan and opened a retail business. Interested in gramophones, he went into partnership with Matsumoto Takeichirô (1865-1907) who had opened the first record shop in Japan. Their aim was to found a recording company in Japan to produce and record the work of Japanese artists, instead of introducing records from western artists. Horn contacted Yuchi Keigo (birth/death dates unknown), a young man who had a passion for gramophones. His job was to create and develop the first Japanese gramophones (Nippon phone) and the first one-side records. The long and difficult manufacturing process to create one-sided records, at the very beginning, from cardboard and imitation leather, and the consequences (robberies, illegal copies sales), lead Horn and Matsumoto's firm to strive to develop a new kind of record: two-side records (made from shellac and laminated materials). These developments led the pair to obtain the first set of protections under what was then newly established copyright law for musicians in Japan.