

# Documenting Cultural Landscapes of Mineral Extraction and Developmental Transformation in North Korea

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With a series of missile tests, satellite launches and nuclear detonations over the last five years, North Korea's intentions, aspirations and capabilities are never far away from the news.<sup>1)</sup> This is equally true of nearly all aspects of the North Korean government that the wider world of scholarship, activism and advocacy considers to be in deficit.<sup>2)</sup> Pyongyang's approach to freedoms and rights is certainly counter to what is considered normative; its legal and bureaucratic frameworks and practices are confusing and its spaces of punishment and incarceration opaque. From the viewpoint of societies marked by practices of consumption, institutions of social democracy, and processes of neo-liberal economics and capitalist extraction, appropriation and accumulation, North Korea appears anachronistic. Given all of this, it should not be surprising that historical information that might demystify some of North Korea's developmental or economic culture is difficult to secure. Nonetheless, much information of use and interest can be extracted from available if unexpected archival sources.

It is not, however, the deep past of the archive that inspired me to delve into the history of North Korea's development, but the contested, confusing present. SRE Minerals, an Australia mining company, announced in 2013 a partnership with the North Korean Ministry of Mining in order to exploit what appeared to be a major deposit of rare earth minerals.<sup>3)</sup> Indeed, the claims made by the Australian company were capable of transforming North Korea into one of the most resource rich nations on earth! If it were possible to seriously financialise the returns from this project, Pyongyang's economic concerns would be allayed and its government would have serious leverage over those who seek to delegitimise and destabilise it. The impact of such resources would also make a considerable impact on the culture of politics and institutional organisation in North Korea. Beyond this, SRE Minerals would surely, in the company's efforts to seek out new markets and possibilities, make such a return as to quiet any ethical or moral concerns. SRE Minerals, in engaging both the political frontier that is the North Korean government and the resource frontier that is the confusing market for Rare Earth minerals, would thereby connect to cultures of resource speculation that are both global<sup>4)</sup> and in the case of the Korean Peninsula, local. While the circumstances of SRE Minerals and North Korea's interaction are marked by contemporary politics and culture, their interaction is a good example of past instances in which political, financial and extractive agendas

competed with each other on the Peninsula. Readers is encouraged to think of this landscape as a cultural production marked by desires for exploitation, extraction, collaboration and profit. The North Korea landscape would be such a terrain if SRE Minerals and institutions of mining and mineral exploration under Pyongyang's control were to be successful. This paper seeks to explore a number of similar landscapes and moments in which North Korean territory was active as a resource frontier. These moments not only reveal cultures of historical developmental collaboration, but may well describe the geography and culture of present-day North Korea.

In order to engage in this exploration, a number of journeys, both in the temporal and geographical sense, are necessary. In particular this paper journeys to the Museum of Ethnology, in Hamburg, where the collection of the German Geologist Karl Gottsche is stored, to the University of Michigan's Asian Studies Library in Ann Arbor, Michigan and to the United States National Archives and Public Records Administration in College Park, Maryland.<sup>5)</sup> All three of these institutions possess material from different periods that reveal some of the landscape of mineralogical and geological prospecting at different moments in the history of the Korean Peninsula.

English language studies of Korean mineralogical exploration and interaction are not extensive before the nineteenth century, but it appears that extraction of precious metals such as gold was an important part of Koguryo and Koryo statecraft, particularly in fostering or sustaining relationships with other, more senior or imposing nations. Edwin Mills' fascinating (and almost unique in English) account suggests the importance of gold for Koguryo vassalage to Wei dynasty China; in 1036, for example, King Wang-hyung outlawed the local usage of gold concerned that it might divert resources away from supplies demanded by the Chinese.<sup>6)</sup> Both the Mongol empire and the Ming dynasty in China equally demanded extensive mineralogical tribute from Korea. The Hideyoshi invasions of the peninsula in the sixteenth century also resulted in extensive loss of gold reserves to the attacking Japanese forces. Rather more successfully for Korean institutions and statecraft, in the later sixteenth and seventeenth centuries, extraction facilities focused on silver, copper and gold were developed widely. Bureaucracies and legal frameworks also developed during this period and infrastructure and rights placed under the aegis of the Imperial Household, but with responsibility outsourced to provincial and regional institutions. Local individuals themselves were even forbidden to own the rights to gold resource or extraction.<sup>7)</sup>

This tightly controlled governmental culture and institutional ecosystem focused on mineral extraction and exploration was soon exposed, as was Korea more generally, to the impact of western modernity and colonial imperatives. Taking advantage of the disruption and ruptures created by Korea's local 'unequal treaties,' beginning with the Treaty of Kanghwa in 1874, adventurers from abroad soon sought to engage with the opportunities presented by Korean resources.<sup>8)</sup> Ernst Oppert's 1864 attempt to rob the graves of the Imperial Household and pilfer its gold resources through an audacious act of blackmail may have been the first of such terrible interactions, but by no means the last.<sup>9)</sup> James Morse, a Gold Miner from Nebraska

and sometime participant in the California Gold Rushes of 1848–1855, for instance presented a convincing argument to the Yi dynasty for developmental connections and was granted a highly successful gold concession at Unsan.<sup>10)</sup> Morse's American Oriental Mining company at Unsan proved a long lived enterprise that remained active until 1941 as the last foreign owned mining company in colonial Chosen, evicted only after Pearl Harbour and the outbreak of hostilities in the Pacific.<sup>11)</sup>

As can be seen from the pre-colonial milieu, the Korean peninsula has been a resource frontier as exploitable and as valuable as the current predictions for the extraction of Rare Earths today. Piqued by the potential of this new Korean bonanza, this paper delves into the history of earlier examples of extraction and exploration. Carl Christian Gottsche was a German geologist famous for researching the sedimentary deposits and geology of Schleswig Holstein. In 1881, in one of the periods more esoteric academic connections, Gottsche was commissioned by Japan's Meiji government to set up an institute and faculty at the University of Tokyo.<sup>12)</sup> Having done so, he wished to return to Germany in 1884, but before travelling was asked by fellow German academic and Asiatic adventurer, Georg Paul Von Mollendorf (who in 1882 had been appointed by King Kojong, to serve as Deputy Foreign Minister for the Choson government), to visit the Korean Peninsula and engage in similar surveying as he had done around Mt Fuji and the Tokyo region. Gottsche spent eight months in Korea during which he travelled widely across the country before returning to Europe and completing his career at the University of Hamburg, becoming the head of its mineralogical-geological institute.<sup>13)</sup>

Gottsche encountered in Korea a vernacular, yet advanced geological scholarship. This body of knowledge addressed and explored mineralogical and geological resources developed not in the recent rush to modernisation, but over previous centuries of Korea's national and cultural development. Gottsche encountered this local mineral culture and purchased extensive materials in the places he visited. Unlike other more literary minded Western visitors to Korea, Gottsche collected with a scientist's eyes and ears, as he sought to corroborate the evidence his geological surveys had revealed. Gottsche interviewed local geological and mining experts throughout the Peninsula in order to obtain their knowledge of both contemporary and historical conditions. Gottsche made extensive notes of these interviews. He also collected a large number of historical maps and other geological paraphernalia as well as more modern naval and military mapping catalogues, many of which contain his own marginal notes.<sup>14)</sup>

Thankfully, the Gottsche collection was gifted complete to the University of Hamburg when Gottsche retired, where it continues to reside in the affiliated Museum der Volkerverbund, the Museum of Ethnology. I visited the museum as a guest of its archivists in order to assess ways in which the Gottsche collection provides glimpses into past Korean landscapes and cultures of mineralogical extraction. The collection contains vital cartographic materials on early Korean cultural conceptions of its mountainscapes and wilderness spaces. Connections between historical notions of geomancy and contemporary South Korean ideas of the Paektu-taegan mountain range as the spiritual energy spine of the peninsula are clearly demonstrated. Maps in the collection present various mountain ranges as conduits for the

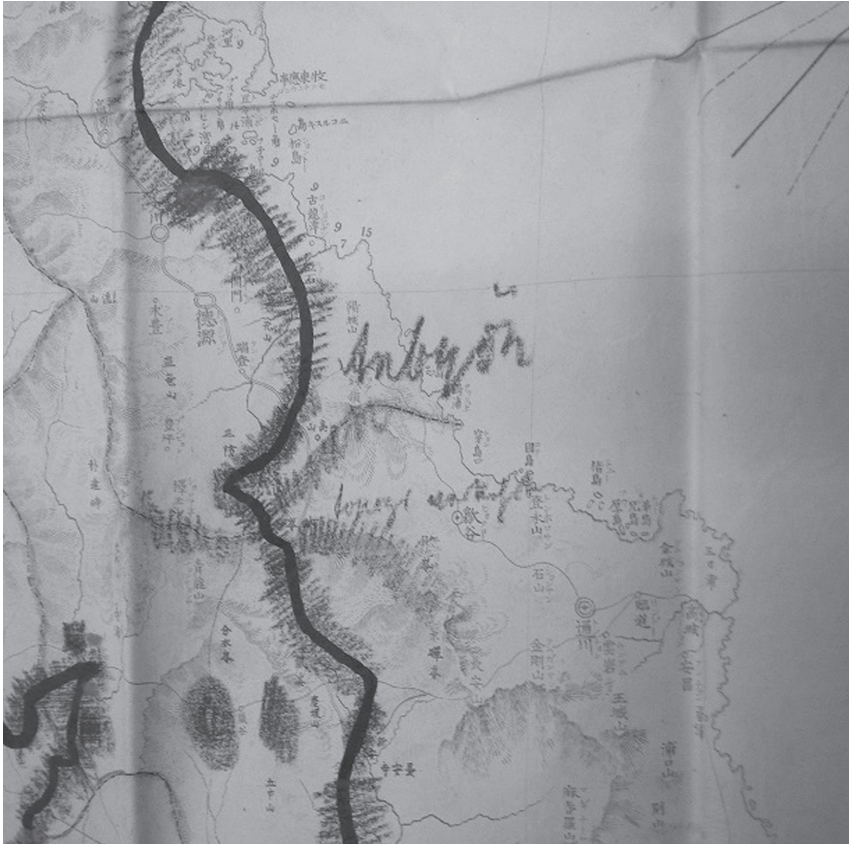


Image 1: Detail from Atlas of Korean Peninsula—Annotated with mineral details by Karl Gottsche. Source: Gottsche Collection, Hamburg Museum of Ethnology, Item 12/24/54.

flow of *ki* energy throughout the peninsula's landscape.<sup>15)</sup> In particular, a fine and dramatic map of Hwanghae province from a seventeenth century atlas incorporates both sites of mineralogical development and military and governmental infrastructure into this web of geomancy.<sup>16)</sup> Gottsche, deriving information through interviews and exchanges, scribed notes on the margins of a number of the maps. These notes suggest the historical placement of particular sites of mineralogical enterprise and resource. A key example within the collection demonstrates that Musan and the famous Unsan site, now in North Korea, were known for their mineral deposits for an extensive period of Korean history.<sup>17)</sup> Gottsche denoted the exact route of his journey across several detailed maps, and felt it important to use different coloured marks to suggest the nature of the geology in the areas and places he passed through as well as projects and sites of exploration and extraction.<sup>18)</sup> Gottsche's collection gives a clear, if incomplete picture of the geological content and developmental undertakings of the Korean Peninsula at an early moment in its pre-colonial history.

### Colonial modernity and mineral extraction

Of course, with historical hindsight, it must be said that Gottsche (along with oth-

er early foreign visitors to the Korean Peninsula, such as Lady Isabella Bishop-Bird at the turn of the twentieth century) encountered Chosen under the ancient Yi dynasty in its last days.<sup>19)</sup> The mineral and extractive landscapes and cultures that Gottsche came to know through interviews and collection of materials were also in the last decades of their existence. For Korea, modernity and new repertoires of governance, social order, technology and science, also served to introduce powerful forces of colonialism and military domination.<sup>20)</sup> In the early twentieth century, following a chaotic and unsuccessful period of confused and sometimes desperate diplomatic triangulation between Imperial China, Imperial Russia and Imperial Japan, King Kojong and his government and whatever was left of the pre-modern bureaucratic and social status quo on the peninsula were forced to accede to Tokyo's will.<sup>21)</sup> A brief period of protectorateship under the auspices of the Japanese Resident General was followed by the full annexation of the Korean Peninsula in 1910. The peninsula was to be governed in future by the Government General of Chosen, through whom Japan's colonial, modernising and exploitative, extractive imperatives were able to operate unhindered.<sup>22)</sup>

The history of Korea's colonial period and the policies and processes of Tokyo's rigorous reconfiguration of the peninsula's society, politics, culture and language have been heavily researched.<sup>23)</sup> The Government General of Chosen first sought to suppress Korean desires for nationhood and independence, second to accommodate them, third to subsume them within an extraordinary process of creating a new Imperial subjectivity, and finally, in the headlong rush to war in the Pacific, to transform the Korean Peninsula into a military site of production and labour.<sup>24)</sup> It was a tumultuous and in many ways for Koreans, awful period, full of indignities, humiliations and unwanted transformations. In terms of resource development, the colonial regime left an extraordinary material record of domination over the landscape. From 1907 the Imperial Resident General Government, and later fully from 1910, the Government General of Chosen published an annual series on economic development: "The Reports on Reforms and Progresses in Chosen (Korea)." The reports in both Japanese and English laid out in intricate detail the activities of the Government General, especially when it came to the reconfiguration and transformation of Korean developmental culture and institutional structures.<sup>25)</sup> Copies and collections of the reports in English are not common, many having been lost and abandoned over the years. The British Library maintains a completed set (a gift from one colonial power to another, sent to the director of the British Museum) as does the Asian Studies Library at the University of Michigan in Ann Arbor. These sets include a full run of the reports in their entirety in both English and Japanese from 1907 to 1941.

As might be expected, the Reports are extensive on many issues of the colonial period. They recount much in the economic and legal field, but for the purposes of this paper contain an extraordinary level of detail addressing industrial development and exploitation, specifically regarding mining and matters of mineralogical extraction. Very much a product of their time and the colonial intellectual and political milieu, the reports conform to the developmental and mineralogical narrative as seen by the Chosen Government General and its institutions in provincial and lo-

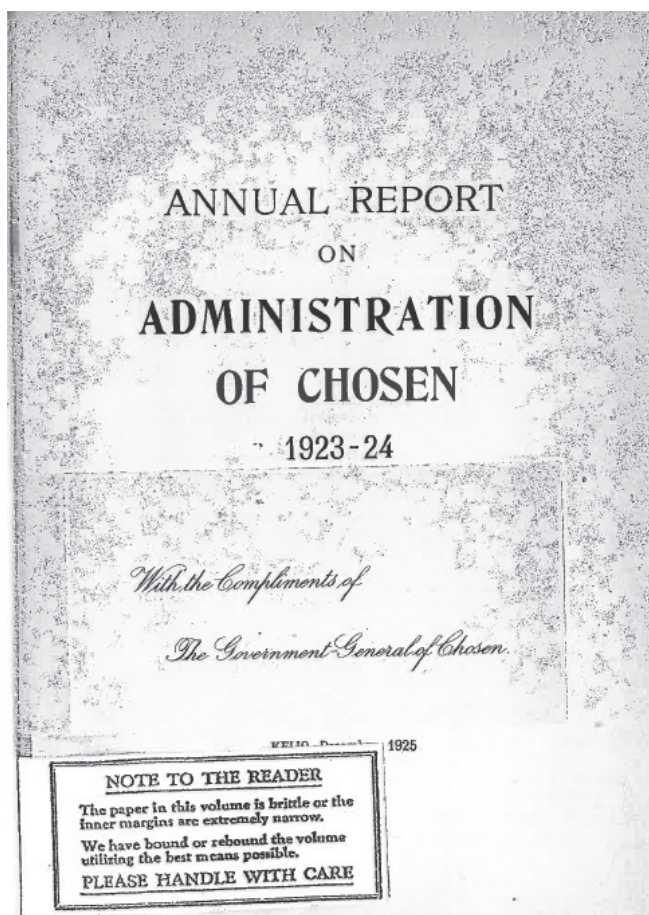


Image 2: Front Cover of Annual Report on Administration of Chosen 1923–1924. Source: Asian Studies Library, University of Michigan.

cal areas of the Korean Peninsula. These include substantial changes to legal frameworks through which mining and mineralogical research was undertaken and the institutional structures through which this legal framework operated. Indeed, it would seem that the Government General sought to transform the entire institutional culture in this area. For example, new Mining Laws were formulated by the Yi dynasty under heavy Japanese influence just before annexation in 1906 and replaced by revisions in 1916. These new colonial revisions allowed only Japanese institutions or subjects to access and control mineral rights, replacing the Imperial Household Agency as the sole controller and arbiter of these resources.<sup>26)</sup> Equally the revisions also increased the range of minerals and elements subject to the legal framework from 17 to 29. These minerals included rare elements such as bismuth, and even more interesting and relevant for this paper, Molybdenum and Quartz Sand.<sup>27)</sup> Quartz Sand, now better known as Monazite, is a base material from which, along with Molybdenum, Rare Earths can be extracted. The Government General of Chosen established a Geological Investigation Office in 1918, and ac-

ording to documents and reports, it was tasked with a twenty-year programme of analysis.<sup>28)</sup> The reports also contained surveying data and statistics from different sectors, particularly so in the case of mining and mineral resources. This data suggests that mineral extraction expanded rapidly during the early colonial period; between 1910 and 1920, for example, the total tonnage of minerals increased from 6,067,952 to 24,204,510 including 2629 tonnes of wulfenite, one of the ores of Molybdenum.<sup>29)</sup> Development in the later periods of the colonial period meant that in 1933-1934 total tonnage had increased to 48,301,468 tonnes.<sup>30)</sup> The reports also identify and describe key infrastructural elements and key mining sites including Unsan, still managed by James Morse's Oriental Consolidated Mining Company, although it was joined with other mines such as Syozyo and Suian, both owned and managed by Nippon Kogyo, one of the Government General's affiliated development and resource management companies.<sup>31)</sup>

The Government General's Annual Report series gives a fascinating, if partial glimpse into the developmental culture of mineral resource. As can be seen from the data on Molybdenum extraction, the Chosen government was beginning to diversify their approach to resource extraction, developing an interest in what later became known as Rare Earths. SRE Minerals, mentioned at the beginning of this paper, proposes specifically to explore Yongju deposits; the Australian company will surely be interested in the statistics regarding Molybdenum extraction.<sup>32)</sup>

### **Captured Documents and Unveiled Narratives**

Details on mineral extraction and institutional development included in the Government General's Annual Reports covers the period up to 1945 and the Liberation of the Peninsula from Japan's colonial rule.<sup>33)</sup> These documents show changes in the institutional and development culture witnessed by Gottsche in the final years of the Yi dynasty. However there are still major gaps in intellectual and practical terms from the potential for mineral extraction in North Korea today. Given the politics and culture of the contemporary regime, such information is difficult if not impossible to obtain. Pyongyang's developmental culture or those practitioners who form it are not available for anthropological, ethnological or sociological study. In part this is due to the extreme reluctance of Pyongyang to allow foreign empirical access, largely out of potential political or ideological disruption. Data and analytic material locally sourced is also either entirely unavailable, badly maintained or produced in later years with difficult or contested methodological frameworks. Fortunately, a third and vitally important collection of material and documentary evidence is available. These documents will be familiar to the readers of Suzy Kim's recent monograph on women in the early politics of North Korea.<sup>34)</sup> The Captured North Korean Documents collection of the United States National Archives and Public Records Administration (NARA), (sometimes known by its institutional catalogue number as Record Group 242), in College Park, Maryland is an extraordinary and complicated collection of material gathered in difficult circumstances.

Exploitation and analysis of mineral resource in the northern half of the Korean Peninsula, as at least partially evidenced by the narratives of the colonial Government General's annual reports, did not come to an end with Liberation. The infant

North Korea in its efforts to reconfigure the social, economic and political cultures of the spaces under its control towards what might be termed “socialist modern,” also sought to reconfigure its mineralogical cultures. Pyongyang, while not bequeathed by a particularly useful or viable agricultural inheritance, was nonetheless gifted with extensive mineral resources. Accordingly, North Korea sought to build upon the Government General’s developmental achievements in the sourcing and extraction of Molybdenum and other rare and valuable minerals, especially at sites now classified as being within the Yongju deposit. The Captured Documents Collection allows some access to the urgency of this early period. Its collection was also a moment of extreme and negative energy. At the outbreak of the Korean War in June 1950, North Korea made rapid gains and drove the Republic of Korea’s army and their American supporters far to the south to a small territory known as the Pusan Perimeter. However North Korea’s KPA was soon beaten back following the Incheon landings by United Nations forces and the ROK army. Southern and American forces in fact captured and occupied Pyongyang from between 19 October 1950 and the 3 December 1950.<sup>35)</sup> During this occupation period, United States and United Nations forces sought to gain as much information as possible from Government ministries and sources in Pyongyang. They raided ministries, archives and many other institutions. The information and the documents collected were shipped back to the administration of the Supreme Commander of Allied Powers (the United States occupying governing power at the time) in Japan and then across the Pacific to the Pacific Command in San Francisco. Eventually the extensive original materials and an annotated translation of their contents in brief and at times unhelpful outline, were de-classified and became part of the NARA collection.

Of particular interest for the purposes of this paper is the fact that in November 1950, the documents recovery group of the US Army raided the Mining Ministry in Pyongyang, followed by raids at other mineral resource and documentary storage sites across Pyongyang. The raid resulted in the capture of a huge collection of mine blueprints, topographical surveys, developmental reports, designs for a wide variety of buildings and infrastructure, and documents which were focused on individual mines and geological exploration projects.

I discovered this collection within the boxes and shipping advice numbers of the Captured Documents. This led me to undertake several research visits to the collection, after which I was able to compile a catalogue of their contents and make a visual/photographic record of relevant documents and materials. I was able to identify blueprints covering the topographic and mining terrain of the following mines: Ullryual, Yangdok, Chodong, Chaeryong, Sinpung, Musan, Kaechon, Kumhwa, Ilgon and Tongban<sup>36)</sup> Many of these sites are described in later North Korean literature and government documents as being among the most important in the field of extractive development. Perhaps reiterating the fact that this collection was extracted from Pyongyang’s bureaucratic heart, the materials examined outline the institutional culture to be undertaken by mineral extraction and exploration projects in the early post-colonial North Korea.<sup>37)</sup> The documents also detail both general and particular targets and agendas for the sector as a whole and with respect to specific mines.<sup>38)</sup> Representative of the accounting and recording systems of the Mining





Image 3: Detail from Record Group 242 document—SA2009/5/154. Source: National Archives and Public Records Administration—College Park, Maryland, USA

Ministry, there is a large collection of telegrams sent from individual mine superintendents recording outputs on weekly and monthly bases and by specific mineral types and resources.<sup>39)</sup> This element also includes contracts with the ministry signed by each extractive or research unit, stipulating the particular materials and elements of focus and expected output.<sup>40)</sup> More generally, and in common with material gathered by the US Army's collection team at other ministry and infrastructural sites, there is an extensive collection of academic and pedagogical material focused on mining theory, practice and geology theory and extractive practice. These documents are perhaps suggestive of the construction of new bodies of knowledge and expertise in North Korea and new cultures of development practice introduced but not yet implemented. Finally, there are a number of documents within the collection that focus on bureaucratic and legal frameworks as well as institutional processes involved in the nationalisation of once private mineral resources and enterprises in newly liberated terrains of southern Korea.

These blueprints featuring mine infrastructure and shaft layouts as well as non-topographical or Geodesic blueprints that serve as templates for the construction, in kit form, of various infrastructural elements belonging to a mining site. The documents do not simply address needs for a site's extractive prerogatives, but also those that serve social needs. Thus, alongside blueprints for the construction of particular models of mine shaft or generators, there are blueprints for the building and maintenance of accommodation blocks, schools, social and community centres and even railway stations and other components of public infrastructure.

The social blueprints are suggestive of an urge on North Korea's part to transform

sites of mineralogical exploitation to fit the creation of a different type of revolutionary landscape. In this sense, the developmental and institutional culture manifest in these documents essentially depicts the future and the physical manifestation of a Socialist Modernity surrounding North Korea's mines and mining infrastructure. No longer were mines and similar spaces of extraction to be the disparate, diffuse and masculine resource frontiers of Korean history known to Mills, Oppert and Gottsche. Neither were they to be governed by the cultures of colonial extraction. Instead these spaces were set in the future, coherently included into the working, educational and leisure infrastructure of North Korean modernity, places of childhood and family as much as working men. For example, among documents on sites at Kaechon, Chaeryong, Ullyul and Musan, Item 154 is to be found, recorded as "Blue print file containing distribution diagram of residence, railway for gasoline rail car, ore bin, elementary school, dated 1950, belonging to Kaechon Graphite Mine, P'yongan Pukto, NK."<sup>41)</sup> Kaechon Mine is not an isolated case when it comes to this sort of social or educational planning. The index relating to Chaeryong Mine in Hwanghae-do includes the following "...draft of residence, bathroom attached to residence, extension of elementary school building..."<sup>42)</sup> Documents related to Ullyul Mine also in Hwanghae-do mention a "...bathroom, storehouse, dispensary, elementary school, residence..."<sup>43)</sup> and those related to Sinpung Mine contain a "...design drawing of residence and elementary school"<sup>44)</sup> while Musan appears ready to receive a "telephone plant, system and exchange."<sup>45)</sup>

## Conclusion

This paper has introduced a variety of repositories of Korean mineral and developmental cultural knowledge. The social landscapes and institutional structures that marked the terrain of exploration and exploitation were transformed in concert with political and economic changes taking place on the Korean Peninsula. The material which Gottsche collected in his forays across the land of Korea in 1884 suggests a developmental culture rooted in the deep past; of relationships of suzerainty as much as of sovereignty, of institutions highly centralised around the structures of the ancient Yi dynasty and of social practices closely connected to geomancy and shamanistic notions of land and terrain. The collection of Government General of Chosen reports reveal the complete transformation of these institutions and processes under the remit of Japanese governmental intentions. The reports describe the wholehearted reconfiguration of Korean mineral and developmental culture around the prerogatives of capitalist extraction and accumulation within a governmental framework profoundly concerned to achieve efficiencies and scientifically rational structures of management. Both of these sets of documents in a sense provide a cultural window into the developmental past of North Korea. Necessarily, as elsewhere, Korean historical cultures and landscapes will have relevance and impact on future manifestations. However, as can be imagined, the present of North Korea is substantially different in all ways not just from historical memory, but also from the majority of developmental cultures and practices of the wider world.

What is to be found in the documentary material from the Captured Documents collection? We do not encounter the ancient terrains of Korean mineral extraction,

nor do we experience the mineralogical space of colonial exploitation and rationalisation caught up in the rush for imperial subjectivity. Instead we encounter a landscape of revolutionary aspiration. North Korea, with its supporters and collaborators from the Soviet Union, was in the midst of both unmaking the mineral terrains of the colonial period, as it set about the task of generating a new form of landscape, more suited and connected to the needs of what was to be a Socialist future. Suzy Kim's recent work, "Everyday Life in the North Korean Revolution," also sought to unpack the structures and cultural processes of these landscapes, examining the female experience during the brief interlude between Liberation and the Korean War.<sup>46)</sup> In the Captured Documents is outlined a developmental and extractive culture that aspires to involve and serve the citizen, the comrade, as much as it does the needs of accumulation and capacity. This new form of cultural landscape was to generate an assemblage of the productive and the social; of mining shafts and medical installations, of winding gears and school buildings. In conclusion, much of this landscape could well have remained uncompleted or swept away in the destructive moments of the Korean War, but the cultural landscapes found within this collection of documents helps us to understand some of the cultural imperatives and direction behind contemporary North Korean developmental spaces, replete as they are with, in spite of everything, a deeply held commitment to utopian principle.

#### Notes

- 1) Research for this paper has received generous support from the Australian Research Council project FL120100155 "Informal Life Politics in the Remaking of Northeast Asia: From Cold War to Post-Cold War" and the Academy of Korean Studies (AKS-2010-DZZ-3104) during Dr Robert Winstanley-Chesters Post-Doctoral Fellowship with the Beyond the Korean War Project (University of Cambridge). Elements of this paper and future elements of the project which underpins it have been supported by translation and inspiration from Dr Adam Cathcart, School of History, University of Leeds and the author wishes to acknowledge Dr Cathcart's expertise, support and influence in the formulation of this material. For recent news regarding North Korean missile testing, see: "North Korea submarine fires ballistic missile," *BBC News*. August 24<sup>th</sup>, 2016. <http://www.bbc.com/news/world-asia-37171608>, Accessed August 25<sup>th</sup>, 2016.
- 2) David Kang, "They Think They're Normal: Enduring Questions and New Research on North Korea," *International Security*, 36.3, Winter (2011/2012), 142–171.
- 3) Pacific Century Rare Earth Minerals Limited, *SRE Announcement*, 2013. Available at: <http://www.pcreml.com/assets/pool/documents/SRE%20announcement%204Dec2013.pdf>, Accessed 9<sup>th</sup> March, 2016.
- 4) Gerald Hatch, "Dynamics in the Global Market for Rare Earths," *Elements*, 8.5, October (2012), 341–346.
- 5) Archival materials were sourced from: National Archives and Public Records Administration of the United States, Captured North Korean Documents Collection (Record Group 242) the Collection of the Museum der Volkerverbund, (Museum of Ethnology), University of Hamburg, Hamburg, Germany. Karl Gottsche Collection (1884) the Asian Studies Library of the University of Michigan, Ann Arbor, Michigan, United States and the Social Studies Reading Room collection of the British Library, St Pancras, London, United Kingdom.
- 6) Edwin Mills, "Gold Mining in Korea," *Transactions of the Royal Asiatic Society of Korea*, 7, (1916), 5–39.
- 7) *Ibid.*
- 8) Kim, Sun-ju, "Representing Korea as 'Other': Ernst J. Oppert's A Forbidden Land, Voyages to the Core," *The Review of Korean Studies*, 7.1, (2004), 145–169.

- 9) Ibid.
- 10) Robert Swartout, "A History of Korean-American Relations" in edit Mel Gurtov, *Korea's Amazing Century: From Kings to Satellites*, (Seoul: Korea Fulbright Foundation, 1996)
- 11) Government General of Chosen, *Annual Report on Progress and Reforms in Chosen (Korea)*, 1941, (Keijo (Seoul): Government General of Chosen, 1941).
- 12) Danish Geological Society, *Memorial Speech for Carl Christian Gottsche (Delivered by Victor Madsen)*, Danish Geological Society, Copenhagen, 1909. Available at: <http://2dggf.dk/xpdf/bull-1910-3-3-369-376.pdf>, Accessed 9<sup>th</sup> March, 2016.
- 13) Ibid.
- 14) Collection of the Museum der Volkerverbund, (Museum of Ethnology), University of Hamburg, Hamburg, Germany. Karl Gottsche Collection (1884).
- 15) David Mason, *Spirit of the Mountains: Korean San-Shin and Traditions of Mountain Worship*, (Seoul: Hollym Publishing, 1999).
- 16) Collection of the Museum der Volkerverbund, (Museum of Ethnology), University of Hamburg, Hamburg, Germany. Karl Gottsche Collection (1884).
- 17) Ibid.
- 18) Ibid.
- 19) Isabella Bird-Bishop, *Korea and her Neighbours*, (Edinburgh: J. Murray, 1905).
- 20) Gi-wook Shin and Michael Robinson, *Colonial Modernity in Korea*, (Cambridge, MASS: Harvard University Press, 1999).
- 21) Henry Conroy, *The Japanese Seizure of Korea: 1868–1910*, (Philadelphia, PA: University of Pennsylvania Press, 1960).
- 22) Gi-wook Shin and Michael Robinson, *Colonial Modernity in Korea*, (Cambridge, MASS: Harvard University Press, 1999).
- 23) Todd Henry, *Assimilating Seoul: Japanese Rule and the Politics of Public Space in Colonial Korea 1910–1945*, (Berkeley, CA: University of California Press, 2015).
- 24) Adrian Buzo, *The Making of Modern Korea*, (London: Routledge, 2007).
- 25) Government General of Chosen, *Annual Report on Progress and Reforms in Chosen (Korea)*, 1910, (Keijo (Seoul): Government General of Chosen, 1910).
- 26) Government General of Chosen, *Annual Report on Progress and Reforms in Chosen (Korea)*, 1916, (Keijo (Seoul): Government General of Chosen, 1916).
- 27) Ibid.
- 28) Government General of Chosen, *Annual Report on Progress and Reforms in Chosen (Korea)*, 1918, (Keijo (Seoul): Government General of Chosen, 1918).
- 29) Government General of Chosen, *Annual Report on Progress and Reforms in Chosen (Korea)*, (Keijo (Seoul): Government General of Chosen, 1920).
- 30) Government General of Chosen, *Annual Report on Progress and Reforms in Chosen (Korea)*, 1934, (Keijo (Seoul): Government General of Chosen, 1934).
- 31) Ibid.
- 32) Research by the Colonial Government General revealed not only copious amounts of Gold, but also the Molybdenum, Wulfenite, Monazite and Tungsten deposits on the Peninsula. Molybdenum is one of the elements from which Rare Earth metals are now found to be embedded. Monazite is another such mineral.
- 33) It is the convention in 'Korean Studies' and more generally in Korean circles to describe the moment of the collapse of Japanese authority over the Peninsula as its Liberation, and to capitalise the word..
- 34) Suzy Kim, *Everyday Life in the North Korean Revolution, 1945–1950*, (Ithaca, NY: Cornell University Press, 2013).
- 35) Bruce Cumings, *The Origins of the Korean War: The Roaring of the Cataract*, (Princeton, NJ: Princeton University Press, 1990).
- 36) Captured Korean Documents Collection (Record Group 242), shipping advice 2009, 5/146. (There is no agreed system for notation so far as Record Group 242's catalogue and shipping advice numbers is concerned. However for this paper the author adopts Charles Armstrong's very

rational model)

- 37) Captured Korean Documents Collection (Record Group 242), shipping advice 2009, 3/68.
- 38) Ibid.
- 39) Captured Korean Documents Collection (Record Group 242), shipping advice 2010, 11/204.
- 40) Ibid.
- 41) Captured Korean Documents Collection (Record Group 242), shipping advice 2009, 5/154.
- 42) Ibid.
- 43) Captured Korean Documents Collection (Record Group 242), shipping advice 2009, 5/158.
- 44) Captured Korean Documents Collection (Record Group 242), shipping advice 2009, 5/159.
- 45) Captured Korean Documents Collection (Record Group 242), shipping advice 2009, 5/160.
- 46) Suzy Kim, *Everyday Life in the North Korean Revolution, 1945–1950*, (Ithaca, NY: Cornell University Press, 2013).

