第一計畫

中國實業之開發，應分兩路進行，（一）個人企業、（二）國家經營是也。凡夫事物之可以委諸個人，或其較國家經營為適宜者，應任個人為之，由國家獎勵，而以法律保護之。今欲利便個人企業之發達於中國，則從來所行之自殺的稅制應即廢止，紊亂之貨幣，立需改良，而各種官吏的障礙，必當排去；尤須輔之以利便交通。至其不能委諸個人及有獨佔性質者，應由國家經營之。今茲所論，後者之事屬焉。此類國家經營之事業，必待外資之吸集、外人之熟練而有組織才具者之雇傭、宏大計畫之建設，然後能舉。以其財產，屬之國有，而為全國人民利益計，以經理之。關於事業之建設運用，其在母財子利尚未完付期前，應由中華民國國家所雇專門練達之外人，任經營監督之責；而其條件，必以教授訓練中國之佐役，俾能將來繼承其乏，為受雇於中國之外人必盡義務之一。及乎本利清償而後，中華民國政府對於所雇外人，當可隨意用舍矣。於詳議國家經營事業開發計畫之先，有四原則必當留意：

（一）必選最有利之途，以吸外資。

（二）必應國民之所最需要。

（三）必期抵抗之至少。

（四）必擇地位之適宜。

今據右列之原則，舉其計畫如下：

（一）築北方大港於直隸灣。

（二）建鐵路統系，起北方大港，迄中國西北極端。

（三）殖民蒙古、新疆。

（四）開浚運河，以聯絡中國北部、中部通渠及北方大港。

（五）開發山西煤鐵礦源，設立制鐵、煉鋼工廠。

上列五部，為一計畫，蓋彼此互相關聯，舉其一有以利其餘也。北方大港之築，用為國際發展實業計畫之策源地。中國與世界交通運輸之關鍵，亦繫夫此，此為中樞，其餘四事旁屬焉。

第一部　北方大港

茲擬建築不封凍之深水大港於直隸灣中。中國該部必需此港，國人宿昔感之，無時或忘。向者屢經設計浚渫大沽口沙，又議築港於岐河口。秦皇島港已見小規模的實行，而葫蘆島港亦經籌商興築。今餘所策，皆在上舉諸地以外。蓋前兩者距深水線過遠而淡水過近，隆冬即行結冰，不堪作

深水不凍商港用；後兩者與戶口集中地遼隔，用為商港，不能見利。茲所計畫之港，為大沽口、秦皇島兩地之中途，青河、，灤河兩口之間，沿大沽口、秦皇島間海岸岬角上。該地為直隸灣中最近深水之一點，若將青河、灤河兩淡水遠引他去，免就近結冰，使為深水不凍大港，絕非至難之事。此處與天津相去，方諸天津、秦皇島間少差七八十咪。且此港能借運河以與北部、中部內地水路相連，而秦皇、葫蘆兩島則否。以商港論，現時直隸灣中唯一不凍之港，惟有秦皇島耳。而此港則遠勝秦皇、葫蘆兩島矣。

由營業上觀察，此港築成，立可獲利，以地居中國最大產鹽區域之中央故也。在此地所產至廉價之鹽，只以日曝法產出；倘能加以近代制鹽新法，且可利用附近廉價之煤，則其產額必將大增，而產費必將大減，如此中華全國所用之鹽價可更廉。今以本計畫遂行之始，僅能成中等商港計之，只此一項實業，已足支持此港而有餘。此外直接附近地域，尚有中國現時已開最大之煤礦（開灤礦務公司），計其產額，年約四百萬噸。該公司現用自有之港（秦皇島），借為輸出之路。顧吾人所計畫之港，距其礦場較近，倘能以運河與礦區相聯，則其運費，方諸陸運至秦皇島者廉省多矣。不特此也，茲港將來必暢銷開灤產煤，則該公司勢必仰資此港為其運輸出口之所。今天津一處在北方為最大商業之中樞，既無深水海港可言，每歲冬期，封凍數月，亦必全賴此港以為世界貿易之通路。此雖局部需要，然僅以此計，已足為此港之利矣。

顧吾人之理想，將欲於有限時期中發達此港，使與紐約等大。試觀此港所襟帶控負之地，即足證明吾人之理想能否實現矣。此地西南為直隸、山西兩省與夫黃河流域，人口之眾約一萬萬。西北為熱河特別區域及蒙古遊牧之原，土曠人稀，急待開發。夫以直隸生鹵之繁，山西礦源之富，必賴此港為其唯一輸出之途。倘將來多倫諾爾、庫倫間鐵路完成，以與西伯利亞鐵路聯絡，則中央西伯利亞一帶皆視此為最近之海港。由是言之，其供給分配區域，當較紐約為大。窮其究竟，必成將來歐亞路線之確實終點，而兩大陸于以連為一氣。今餘所計畫之地，現時毫無價值可言。假令於此選地二三百方咪置諸國有，以為建築將來都市之用，而四十年後，發達程度即令不如紐約，僅等於美國費府，吾敢信地值所漲，已足償所投建築資金矣。

中國該部地方，必需如是海港，自不待論。蓋直隸、山西、山東西部、河南北部、奉天之一半、陝甘兩省之泰半，約一萬萬之人口，皆未嘗有此種海港。蒙古、新疆與夫煤鐵至富之山西，亦將全恃直隸海岸，為其出海通衢。若乎沿海、沿江各地稠聚人民，必需移實蒙古、天山一帶從事墾殖者，此港實為最近門戶，且以由此行旅為最廉矣。

茲港所在，距深水至近，去大河至遠，而無河流滯淤，填積港口，有如黃河口、揚子江口時需浚渫之患。自然之障礙，於焉可免。又為乾燥平原，民居極鮮，人為障礙絲毫不存，建築工事，盡堪如我所欲。至於海港、都市兩者之工程預算，當有待於專門技士之測勘，而後詳細計畫可定。

第二部　西北鐵路系統

吾人所計畫之鐵路，由北方大港起，經灤河谷地，以達多倫諾爾，凡三百咪。經始之初，即築雙軌，以海港為出發點，以多倫諾爾為門戶，以吸收廣漠平原之物產，而由多倫諾爾進展於西北。第一線，向北偏東北走，與興安嶺山脈平行，經海拉爾，以赴漠河。漠河者，產金區域，而黑龍江右岸地也。計其延長，約八百咪。第二線，向北偏西北走，經克魯倫，以達中俄邊境，以與赤塔城附近之西伯利亞鐵路相接，長約六百咪。第三線，以一幹線向西北，轉正西，又轉西南，沿沙漠北境，以至國境西端之迪化城，長約一千六百咪。地皆平坦，無崇山峻嶺。第四線，由迪化迤西以達伊犁，約四百咪。第五線，由迪化東南，超出天山山峽，以入戈壁邊境，轉而西南走，經天山以南沼地與戈壁沙漠北偏之間一帶腴沃之地，以至喀什噶爾；由是更轉而東南走，經帕米爾高原以東，昆侖以北，與沙漠南邊之間一帶沃土，以至於闐，即克裡雅河岸。延長約一千二百咪，地亦平坦。第六線，於多倫諾爾、迪化間幹線，開一支線，由甲接合點出發，經庫倫，以至恰克圖，約長三百五十咪。第七線，由幹線乙接合點出發，經烏裡雅蘇台，傾北偏西北走，以至邊境，約六百咪。第八線，由幹線丙接合點出發，西北走，達邊境，約四百咪。

茲所計畫之鐵路，證以「抵抗至少」之原則，實為最與理想相符合者。蓋以七千餘咪之路線為吾人計畫所定者，皆在坦途。例如多倫諾爾至喀什噶爾之間，且由斯更進之路線，延袤三千餘咪，所經均肥沃之平野，並無高山大河自然之梗阻橫貫其中也。

以「地位適宜」之原則言之，則此種鐵路，實居支配世界的重要位置。蓋將為歐亞鐵路系統之主幹，而中、歐兩陸人口之中心，因以聯結。由太平洋岸前往歐洲者，以經此路線為最近；而由伊犁發出之支線，將與未來之印度、歐洲線路（即行經伯達，以通達馬斯加斯及海樓府者）聯絡，成一連鎖。將來由吾人所計畫之港，可以直達好望角城。綜觀現在鐵路，於世界位置上無較此重要者矣。

以「國民需要」之原則言之，此為第一需要之鐵路。蓋所經地方，較

諸本部十八行省尤為廣闊。現以交通運輸機關缺乏之故，豐富地域，委為荒壤，而沿海沿江煙戶稠密省分，麕聚之貧民無所操作，其棄自然之惠澤而耗人力於無為者，果何如乎？倘有鐵路與此等地方相通，則稠密省區無業之遊民，可資以開發此等富足之地。此不僅有利於中國，且有以利世界商業於無窮也。故中國西北部之鐵路系統，由政治上經濟上言之，皆於中國今日，為必要而刻不容緩者也。

吾人所以置「必選有利之途」之第一原則而未涉及者，非遺棄之也，蓋將詳為論列，使讀者三致意焉耳。今夫鐵路之設，間於人口繁盛之區者其利大，間於民居疏散之地者其利微，此為普通資本家、鐵路家所恒信；今以線路橫亙於荒僻無人之境，如吾人所計畫者，必將久延歲月，而後有利可圖。北美合眾國政府於五十年前，所以給與無垠之土地於鐵路公司，誘其建築橫跨大陸乾路，以達太平洋岸者，職是之故。餘每與外國鐵路家、資本家言興築蒙古、新疆鐵路，彼輩恒有不願。彼將以為茲路之設，所過皆人跡稀罕，只基於政治上軍事上理由，有如西伯利亞鐵路之例，而不知鐵路之所佈置，由人口至多以達人口至少之地者，其利較兩端皆人口至多之地為大。茲之事實，蓋為彼輩所未曾聞。請詳言其理。夫鐵路兩端人口至多之所，彼此經濟情況大相仿佛，不如一方人口至多、他方人口至少者，彼此相差之遠。在兩端皆人口至多者，舍特種物產此方仰賴彼方之供給而外，兩處居民大都生活於自足經濟情況之中，而彼此之需要供給不大，貿遷交易，不能得巨利。至於一方人口多而他方人口少者，彼此經濟情況，大相徑庭。新開土地從事勞動之人民，除富有糧食及原料品，以待人口多處之所需求而外，一切貨物，皆賴他方之繁盛區域供給，以故兩方貿易必臻鼎盛。不特此也，築於兩端皆人口至多之鐵路，對於人民之多數無大影響，所受益者惟少數富戶及商人而已；其在一方人口多而他方人口少者，每築鐵路一咪開始輸運，人口多處之眾必隨之而合群移住於新地，是則此路建築之始，將充其量以載行客。京奉、京漢兩路比較，其明證也。

京漢路線之延長八百有餘咪，由北京直達中國商業聚中之腹地，鐵路兩端之所包括，皆戶集人稠之所；京奉路線長僅六百咪耳，然由人口多處之京、津，開赴人口少處之滿洲。前者雖有收益，則不若後者所得之大。以較短之京奉線，方諸較長之京漢線，每年純利所贏，其超過之數有至三四百萬者矣。

故自理則上言之，從利益之點觀察，人口眾多之處之鐵路，遠勝於人口稀少者之鐵路。然由人口眾多之處築至人口稀少之處之鐵路，其利尤大。此為鐵路經濟上之原則，而鐵路家、資本家所未嘗發明者也。

據此鐵路經濟上之新原則，而斷吾人所計畫之鐵路，斯為有利中之最有利者。蓋一方聯接吾人所計畫之港，以通吾國沿海沿江戶口至多省分；又以現存之京漢、津浦兩路，為此港暨多倫諾爾路線之給養，他方聯接大逾中國本部之饒富未開之地。世界他處，欲求似此廣漠腴沃之地，而鄰近於四萬萬人口之中心者，真不可得矣。

PROGRAM I

The industrial development of China should be carried out along two lines: (1) by private enterprise and (2) by national undertaking. All matters that can be and are better carried out by private enterprise should be left to private hands which should be encouraged and fully protected by liberal laws. And in order to facilitate the industrial development by private enterprise in China, the hitherto suicidal internal taxes must be abolished, the cumbersome currency must be reformed, the various kinds of official obstacles must be removed, and transportation facilities must be provided. All matters that cannot be taken up by private concerns and those that possess monopolistic character should be taken up as national undertakings. It is for this latter line of development that we are here endeavoring to deal with. In this national undertaking, foreign capital have to be invited, foreign experts and organizers have to be enlisted, and gigantic methods have to be adopted. The property thus created will be state owned and will be managed for the benefit of the whole nation. During the construction and the operation of each of these national undertakings, before its capital and interest are fully repaid, it will be managed and supervised by foreign experts under Chinese employment. As one of their obligations, these foreign experts have to undertake the training of Chinese assistants to take their places in the future. When the capital and interest of each undertaking are paid off, the Chinese Government will have the option to employ either foreigners or Chinese to manage the concern as it thinks fit.

Before entering into the details of this International development scheme, four principles have to be considered:

(i) The most remunerative field must be selected in order to attract foreign capital,
(ii) The most urgent needs of the nation must be met.
(iii) The lines of least resistance must be followed.
(iv) The most suitable positions must be chosen.

In conformity with the above principles, I formulate Program I as follows:

I. The construction of a great Northern Port on the Gulf of Pechili.
II. The building of a system of railways from the Great Northern Port to the Northwestern extremity of China.

III. The Colonization of Mongolia and Sinkiang (Chinese Turkestan).
IV. The construction of canals to connect the inland waterway systems of North and Central China with the Great Northern Port.
V. The development of the Iron and Coal fields in Shansi and the construction of an Iron and Steel Works.

These five projects will be worked out as one program, for each of them will assist and accelerate the development of the others. The Great Northern Port will serve as a base of operation of this International Development Scheme, as well as a meeting link of transportation and communication between China and the outer world. The other four projects will be itered around it.

PART I The Great Northern Port

I propose that a great deep water and ice free port be constructed on the Gulf of Pechili. The need of such a port in 1 part of China has been keenly felt for a long time. Several projects have been proposed such as the deepening of the Taku Bar, the construction of a harbor in the Chiho estuary, the Chinwangtao Harbor which has actually been carried out on a small scale and the Hulutao Harbor which is on the point of being constructed. But the site of my projected port is in none of these places for the first two are too far from the deep water line and too near to fresh water which freezes in winter. So it is impossible to make them into deep water and ice free ports, while the last two are too far away from the center of population and are unprofitable as commercial ports. The locality of my projected port is just at midway between Taku and Chinwangtao and at a point between the mouths of the Tsingho and Lwanho, on the cape of the coast line between Taku and Chinwangtao. This is one of the points nearest to deep water in this Gulf. "With the fresh water of the Tsingho and Lwanho diverted away, it can be made a deep water and ice free port without much difficulty. Its distance to Tientsin is about seventy or eighty miles less than that of Chinwangtao to Tientsin. Moreover, this port can be connected with the inland waterway systems of North and Central China by canal, whereas in the case of Chinwangtao and Hulutao this could not be done. So this port is far superior as a commercial harbor than Hulutao or Chinwangtao which at present is the only ice free port in the Gulf of Pechili.

From a commercial standpoint this port will be a paying prop-osition from

the very beginning of its construction, owing to the fact that it is situated at the center of the greatest salt industry in China. The cheapest salt is produced here by sun evaporation only. If modern methods could be added, also utilizing the cheap coal near by, the production could increase many times more and the cost could thus be made much cheaper. Then it can supply the whole of China with much cheaper salt. By this industry alone it is quite sufficient to support a moderate sized harbor which must be the first step of this great project. Besides, there is in the immediate neighborhood the greatest coal mine that has yet been developed in China, the Kailan Alining Co. The output of its colliery is about four million tons a year. At present the company uses its own harbor, Chinwangtao, for shipping its exports. But our projected port is much nearer to its colliery than Chinwangtao. It can be connected with the mine by canal thus providing it with a much cheaper carriage than by rail to Chinwangtao. Furthermore, our projected port will in future consume much of the Kailan coal. Thus eventually the Company must use our port as a shipping stage for its exports. Tientsin, the largest commercial center in North China, has no deep harbor and is ice bound several months a year in winter, and so has to use our projected port entirely as an outlet for its world trade. This is the local need only but for this alone it is quite sufficient to make our projected port a paying proposition.

But my idea is to develop this port as large as New York in a reasonable limit of time. Now, let us survey the hinterland to see whether the possibility justifies my ideal or not. To the southwest are the provinces of Chili and Shansi, and the Hoangho valley with a population of nearly a hundred millions. To the northwest are the undeveloped Jehol district and the vast Mongolian Prairie with their virgin soil waiting for development. Chili with its dense population and Shansi with its rich mineral resources have to depend upon this port as their only outlet to the sea. And if the future Dolon Nor and Urga Railway is completed with connection to the Siberian line then Central Siberia will also have to use this as its nearest seaport. Thus contributing or rather distributing area will be larger than that of New York. Finally, this port will become the true terminus the future Eurasian Railway System, which will connect the two continents. The land which we select to be the site of our projected port is now almost worth next to nothing. Let us say two or three hundred square miles be taken up as national property absolutely for our future city building. If within forty years we could develop a city as large as Philadelphia, not to say New York, the land value alone will be sufficient to

pay off the initial invested in its development.

The need of such a port in this part of China goes without saying. For the provinces of Chili, Shansi, Western Shantung, Northern Honan, a part of Fengtien and the greater part of Shensi and Kansu with a population of about 100 millions are lacking of a sea port of this kind. Mongolia and Sinkiang as well as the rich coal and iron fields of Shansi will also have to depend on the Chili coast as their only outlet to the sea. And the millions of congested population of the coast and the Yangtze valley need an entrance to the virgin soil of the Mongolian Prairie and the Tienshan Valley. The port will be the shortest doorway and the cheapest passage to these regions.

The locality of our projected port is nearest to deep water line, and far away from any large river which might carry silt to fill up the approach of the harbor like those of the Hoangho entrance and the Yangtze estuary which cause great trouble to conservancy work. So it has no great natural obstacle to be overcome. Moreover, it is situated in an arid plain with few people living on it, so it has no artificial hindrance to be overcome. We can do whatever we please in the process of construction.

As regards the planning and estimation of the work of the harbor construction and city building, I must leave them to experts who have to make extensive surveys and soundings before detailed plan and proper estimation could be made. Whereas for rough reference see Map I, and figures l and 2.*

PART II The Northwestern Railway System

Our projected Railway will start at the Great Northern Port and follow the Lwan Valley to the prairie city of Dolon Nor, a distance of three hundred miles. This railway should be built in double tracks at the commencement. As our projected Tort is a starting point to the sea, so Dolon Nor is a gate to the vast prairie which our projected Railway System is going to tap. It is from Dolon Nor our Northwestern Railway System is going to radiate. First, a line N. X. E. will run parallel to the Khingan Range to Khailar, and thence to Moho, the gold district on the right hank of the Amur River. This line is about eight hundred miles in length. Second, a line N.N.W. to Kurelun, and thence to the frontier to join the Siberian line near Chita. This line has a distance of about six hundred miles. Third, a trunk line northwest, west, and southwest, skirting

off the northern edge of the desert proper, to Urumochi at the western end of China, a distance of about one thousand six hundred miles all on level land. Fourth, a line from Urumochi westward to Ili, a distance of about four hundred miles. Fifth, a line from Urumochi southeast across the Tienshan gap into the Darim basin, then turning southwest running along the fertile zone between the southern watershed of the Tienshan and the northern edge of the Darim Desert, to Kashgar, and thence turning southeast to another fertile zone between the eastern watershed of the Pamir, the northern watershed of the Kuenlun Mountain and the southern edge of the Darim Desert, to the city of Iden or Keria, a distance of about one thousand two hundred miles all on level land. Sixth, a branch from the Dolon Nor Urumochi Trunk Line, which I shall call Junction A, to Urga and thence to the frontier city Kiakata, a distance of about three hundred fifty miles. Seventh, a branch from Junction B to Uliassutai and beyond N.N.W. up to the frontier, a distance of about six hundred miles. And eighth, a branch from Junction C northwest to the frontier, a distance of about four hundred fifty miles. See Map II.

Regarded from the principle of ''following the line of least distance" our projected railways in this program is the most ideal one. For most of the seven thousand miles of lines under this project are on perfectly level land. For instance, the Trunk Line from Dolon Nor to Kashgar and beyond, about a distance of three thousand miles right along is on the most fertile plain and encounters no natural obstacles, neither high mountains nor great rivers.

Regarded from the principle of "the most suitable position,"our projected railways will command the most dominating position of world importance. It will form a part of the trunk line of the Eurasian system which will connect the two populous centers, Europe and China, together. It will be the shortest line from the Pacific Coast to Europe. Its branch from Ili will connect with the future Indo-European line, and through Bagdad, Damascus and Cairo, will link up also with the future African system. Then there will be a through route from our projected port to Cape Town. There is no existing railway commanding such a world important position as this.

Regarded from the principle of the "most urgent need of the Nation", this railway system becomes the first in importance, for the territories traversed by it are larger than the eighteen provinces of China Proper. Owing to the lack of means of transportation and communication at present these rich territories are

left undeveloped and millions of laborers in the congested provinces along the Coast and in the Yangtse Valley are without work. What a great waste of natural and human energies. If there is a railway connecting these vast territories, the waste labor of the congested provinces can go and develop these rich soils for the good not only of China but also of the whole commercial world. So a system of railways to the northwestern part of the country is the most urgent need both politically and economically for China today.

I have intentionally left out the first principle — "the most remunerative field must be selected'' — not because I want to neglect it but because I mean to call more attention to it and treat it more fully. It is commonly known to financiers and railway men that a railway in a densely populated country from end to end is the best paying proposition, and a railway in a thinly settled country from end to end is the least paying one. And a railway in an almost unpopulated country like our projected lines will take a long time to make it a paying business. That is why the United States Government had to grant large tracts of public lands to railway corporations to induce them to build the Transcontinental lines to the Pacific Coast, half a century ago. Whenever I talked with foreign railway men and financiers about the construction of railways to Mongolia and Sinkiang, they generally got very shy of the proposition. Undoubtedly they thought that it is for political and military reasons only that such a line as the Siberian Railway was built, which traversed through a thinly populated land. But they could not grasp the fact which might be entirely new to them, that a railway between a densely populated country and a sparsely settled country will pay far better than one that runs from end to end in a densely populated land. The reason is that in economic conditions the two ends of a well populated country are not so different as that between a thickly populated country and a newly opened country. At the two ends of a well populated country, in many respects, the local people arc self-supplying, excepting a few special articles which they depend upon the other end of the road to supply. So the demand and supply between the two places are not very great, thus the trade between the two ends of the railway could not be very lucrative. While the difference of the economic condition between a well populated country and an unpopulated country is very great. The workers of the new land have to depend upon the supplies of the thickly populated country almost in everything excepting foodstuffs and raw materials which they have in abundance and for disposal of

which they have to depend upon the demand of the well populated district. Thus the trade between the two ends of the line will be extraordinarily great. Furthermore, a railway in a thickly populated place will not affect much the masses which consist of the majority of the population. It is only the few well-to-do and the merchants and tradesmen that make use of it. While with a railway between a thickly populated country and a sparsely settled or unsettled country, as soon as it is opened to traffic for each mile, the masses of the congested country will use it and rush into the new land in a wholesale manner. Thus the railway will be employed to its utmost capacity in passenger traffic from the beginning. The comparison between the Peking-Hankow Railway and the Peking-Mukden Railway in China is a convincing proof.

The Peking-Hankow Railway is a line of over eight hundred miles running from the capital of the country to the commercial center in the heart of China right along in an extraordinarily densely settled country from end to end. While the Peking-Mukden line is barely six hundred miles in length running from a thickly populated country to thinly populated Manchuria. The former is a well paying line but the latter pays far better. The net profit of the shorter Peking-Mukden Line is sometimes three to four millions more yearly than that of the longer Peking- Hankow line.

Therefore, it is logically clear that a railway in a thickly populated country is much better than one that is in a thinly populated country in remuneration. But a railway between a very thickly populated and a very thinly populated or un-populated country is the best paying proposition. This is a law in Railway Economics which hitherto had not been discovered by railway men and financiers.

According to this new railway economic law, our projected railway will be the best remunerative project of its kind. For at the one end, we have our projected port which acts as a connecting link with the thickly populated coast of China and the Yangtse Valley and also the two existing lines, the Kinghan and the Tsinpu, as feeders to the projected port and the Dolon Nor line. And at the other end, we have a vast and rich territory, larger than China Proper, to be developed. There is no such vast fertile field so near to a center of a population of four hundred millions to be found in any other part of the world.