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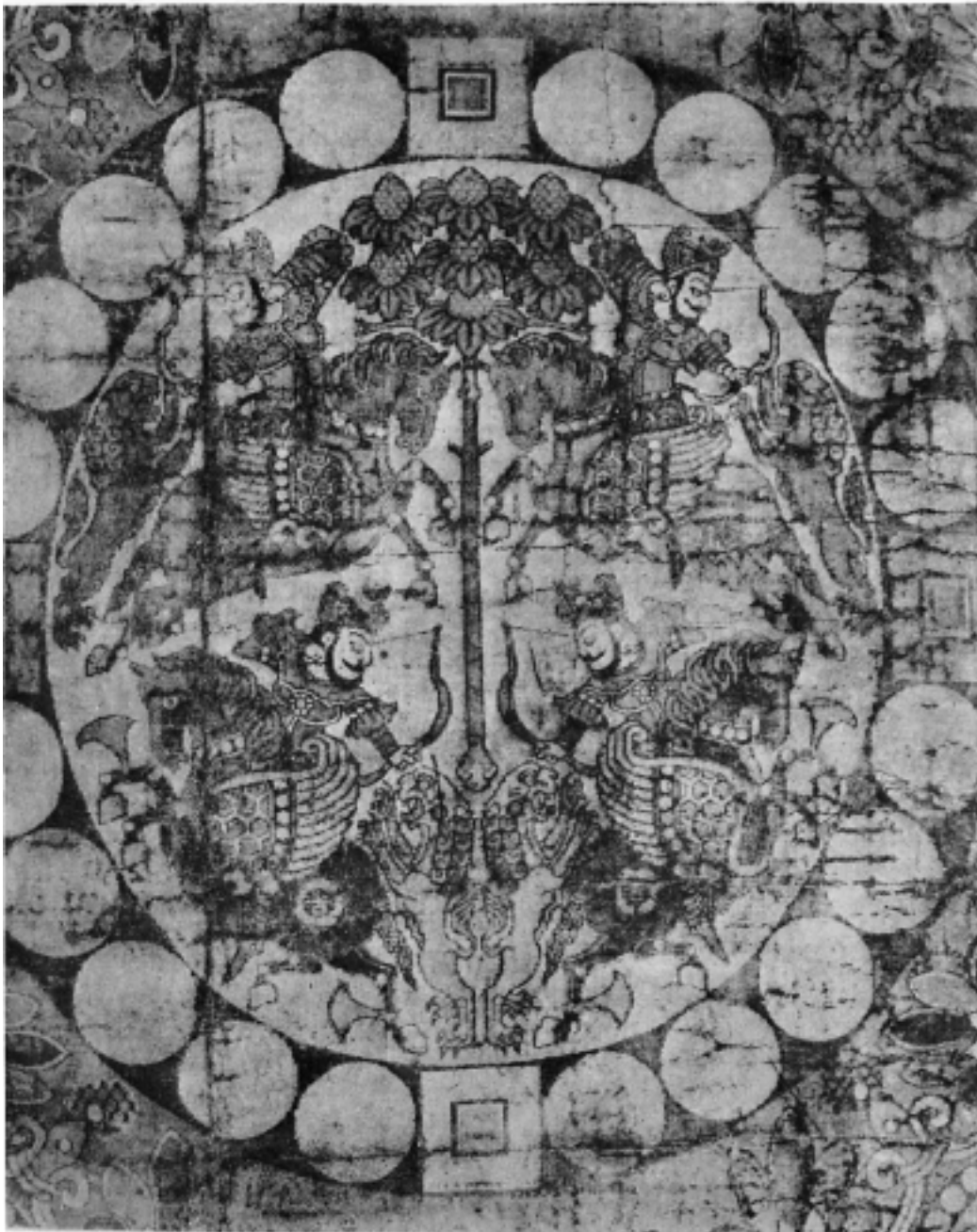
NOTES ON A STUDY OF THE TRADE ROUTES OF CENTRAL ASIA

From material assembled by DR. RUDOLPH M. RIEFSTAHL

Edited and arranged by ELIZABETH RIEFSTAHL

CONTENTS

	PAGE
Introduction	5
The Beginning of Transasiatic Trade.....	9
Zones of Communication Between East and West.....	13
The Central and Southern Siberian Trails.....	17
The Ili-Dzungarian Zone.....	19
The Chinese Turkestan Routes.....	39
Minor Routes	55
The Sea Routes Between China and the West.....	61



FRONTISPIECE

DETAIL OF A SILK BANNER IN THE HORIUJI TEMPLE AT NARA, JAPAN. SAID TO HAVE BEEN USED BY THE MIKADO SHOMU (A.D. 724-749). THIS FABRIC, WHICH MAY HAVE BEEN WOVEN IN PERSIA OR CENTRAL ASIA, IS AN INTERESTING EXAMPLE OF THE MINGLING OF NEAR AND FAR EASTERN INFLUENCES IN DESIGN. THE CIRCLE OF DISCS, THE ORNAMENT BETWEEN THE ROUNDELS, THE HUNTING MOTIF, THE WINGED HORSES, AND THE WINGED TIARA WORN BY THE HUNTSMEN ARE SASANIAN. THE INSCRIPTIONS ON THE HORSES' FLANKS AND THE FORM OF THE TREE ARE CHINESE, ACCORDING TO FALKE. THE WEAVING, IN CERTAIN DETAILS ESPECIALLY, APPEARS TO BE THE SAME AS IN SOME SILKS THAT HAVE BEEN ATTRIBUTED TO SASANIAN PERSIA. (EDITOR'S NOTE.)

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From Material Assembled by
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FOREWORD

My husband laid the manuscript of this article aside two years before his death, because he had no time for the research necessary to its completion. I have had neither time nor competence to do more than put together the material he left, cut out overlapping sections, clarify a few doubtful passages and check the references. I hesitate to publish something with which he was not satisfied. Since, however, the members of the Needle and Bobbin Club who heard his lectures on the trade routes are kind enough to want the article in its present form, I am glad to offer it to them for what it is—material on which study may be based.—E. R.

INTRODUCTION

THE history of the trade relations between China and the West is not the story merely of an exchange of goods. Ideas, as well as merchandise, traveled along the trade routes. A piece of pottery, a textile, a precious work in gold or silver carried ideas of form and decoration from one country to another. Illuminated books, paintings and sculpture conveyed, often perhaps more vividly than the words of traveling zealots, the ideas back of Buddhism, Nestorian Christianity and Manichæism. Many of the commodities of early trade have disappeared without leaving any trace other than occasional mention in historic records. Others, works of art still fresh in beauty, have only recently been yielded by a guardian soil to the modern archeologist. But the traveling ideas that ennobled the article of utility have never been lost. They have been handed down to the present in the religion and philosophical thought and in the artistic forms of regions they penetrated long ago. Though forms and ideas often survive only in a popular and degenerate aspect, tradition is still alive in them.

All land communication between East and West must be by way of Central Asia. Central Asia is so remote that the names of its mountains and rivers and plains, its passes and its rare towns, are all but unknown to the majority of us, yet much of our history was made there. Its routes, many of which are still in use, were traveled long before trade relationships between Orient and Occident were established. They were the paths followed by migrating peoples whose history is often largely a matter of speculation, but who left their imprint on later civilizations.

For centuries, the wild populations of Central Asia have exerted a continuous pressure on Northern China, on Southern Russia and on Europe. Tribes from the north destroyed the Indo-European civilization that once flourished in the southern regions of Central Asia, and pushed wave after wave of nomads to the west. The vague, half-mythical Cimmerians of Greek legend were Central Asian tribes that swept over Mesopotamia, Asia Minor and Southern Russia. Next, the Iranian Scythians established

themselves in Southern Russia, where they were known to the classical world through their contact and trade with the Greek colonists of the Black Sea littoral. They were succeeded in Southern Russia by the Sarmatians, another Iranian tribe, who became a thorn in the flesh of the Roman empire, and finally penetrated, in company with the Goths, as far as Italy, Spain and North Africa. It was the Huns, another wild tribe from the heart of Central Asia, who destroyed the Germanic state of the Goths in Southern Russia and pushed them westward to threaten Constantinople and destroy Rome. The Huns were followed by Avars, Bulgars, Petchenegs, Magyars and Turks. These waves found their culmination in the Mongol empire of Jenghiz Khan and his successors, which stretched from Poland to the Yellow Sea.¹

Migrations seem to have moved, however, not only from East to West, but also from West to East. When, about fifty years ago, Terrien de Lacouperie first advanced the theory that there was a connection between the ancient Chinese civilization and that of ancient Mesopotamia, his ideas were not accepted. Recent discoveries have, however, given some support to his theory. The fact that neolithic potteries found in Western China show a similarity to Western neolithic potteries, such as those found in Southern Russia, may also indicate early exchange between West and East.

While our knowledge of the situation of the "Cradle of the Races" and of the prehistoric migrations of peoples is as yet so inexact as to make speculation hazardous, we are tempted to draw conclusions when we find a race of Western speech living in historic times in the eastern part of Central Asia. The Tocharian language, of which recent exploration of Chinese Turkestan has furnished many examples, is an Indo-European language, belonging not to the Eastern wing of the Indo-European languages such as the Iranian and Indian languages (the so-called "satem" languages) but to the European wing of Indo-European languages (the so-called "kentum" languages).

Identity of language does not necessarily mean identity of race. But the existence of a race with Western Indo-European physical characteristics has been claimed by Von Lecoq, who found, during his travels in Chinese Turkestan, men of red hair and blue eyes who seemed to him isolated remains of a Western race. He also found depicted on ancient wall paintings in Chinese Turkestan, side by side with the Mongolian type of the Turkish Uighurs, personages of Western type. These red-haired

¹ M. I. Rostovtzeff, *Iranians and Greeks in South Russia*, 1922.

and blue-eyed men represented in the frescoes were probably those who spoke the Tocharian language, survivors of a once powerful civilization of Chinese Turkestan, differing from that of the surrounding Iranians or Mongolians.

Von Lecoq believed the Tocharians to be identical with the Yue-chi of the Chinese annals, who were already established in Chinese Turkestan and probably also in the adjacent parts of Kan-su during the second century B.C. In the beginning of that century, the Yue-chi were subjected to an increasing pressure exerted from the northeast by the Mongolian Hiong-nu or Huns. The Hiong-nu were nomads—shepherds and hunters—while at least part of the Yue-chi must have reached a much higher level of civilization. Since the oases of Chinese Turkestan are in a rainless zone, watered only by the rivers which come down from the glaciers of the Tian-shan and Kuen-lun mountains, life cannot be sustained there by cattle herding, but only by agriculture. At least part of the Yue-chi must, therefore, have been agriculturists, able in most cases to survive only through irrigation of their fields.

Large numbers of the Yue-chi were finally pushed out by the wild nomads from the northeast. They spread westward, settled in what are today Western Turkestan, Afghanistan and Balkh, and built up a powerful empire which soon extended to Northwestern India. But not all the Yue-chi left Chinese Turkestan. Since the oases were of no use to the barbaric nomads who lived largely by war and pillage, some of the conquered population were suffered—of course against payment of tribute—to continue the cultivation of their fields.

In this manner, before the history of Chinese Turkestan began to be written or began to survive in written documents, migrations connected East and West, and primitive arts and crafts migrated back and forth with the migrating tribes. The modern archeologist has unearthed many witnesses of these migrations. An outstanding example, though by no means the earliest, is that furnished by objects of the so-called Scythian “animal style,” which carried westward a primitive, vigorous huntsman’s art, to be mingled with Mesopotamian and classical motifs and, thus transmuted, to be spread from the Chinese border to Western Europe.

While the later classic world established trade relations with the Far East, all communication was by means of middlemen. Some few persons may have found their way from the West to the East and from the East to the West. There are indeed references to Roman “diplomatic missions” to China in the early centuries of our era, and a few Chinese penetrated

far enough into the Western shadows to bring back strange rumors of the peoples who inhabited the countries beyond; but, whatever communication there was, it was not sufficient to dispel the fantastic ideas of the other side of the world that prevailed in both East and West. Little by little, however, adventurous spirits, missionaries — the earliest among them the Nestorians — merchants, political emissaries, braved the hardships of the road to China. In the early Middle Ages a number of Western travelers, the most famous among them Marco Polo, reached China by way of Central Asia, and brought back tales in which wild fantasy and fact had equal place.

After the breakdown of the Mongol rule over China in the fourteenth century, the very names of the Central Asian regions were forgotten in the West and for centuries remained forgotten. China and the West communicated exclusively by the sea route. Even to the Chinese, Central Asia was no longer known as a way to the West, but merely as a distant, desolate outpost, to which officers or officials in disgrace were sent into exile or for most unpleasant administrative or military duties.

Today, Central Asia is again of world importance. Though no one can foresee what the next hundred years will bring, a regrouping of forces in the Far East seems certain. It is obvious that Central Asia is a key position for any power with ambitions looking eastward and that new armies and new migrations will travel the old routes. The Altai region, already recognized as important by Imperial Russia, is being systematically developed by the Soviets. The classic lane of traffic, Kiakhta-Urga-Kalgan-Peiping, is paralleled by the routes from Western Turkestan to China through the Ili region or through Eastern Turkestan. Little mention is made of another important line of communication through the heart of Central Asia — the route which connects the upper Irtysh and Ob valleys, through the passes of Kobdo and Uliassutai, with the upper Hoang-ho valley and the heart of China. The old régime in China forbade all traffic whatsoever by this route, for they recognized it as a weak spot in the circle of defense flung about their jealously guarded kingdom. Certainly this way has not been left out of the calculations of the Soviets.

Any decisive conflict in Central Asia will not affect Russia alone. It will decide the fate of Western political and commercial position throughout Eastern Asia, and maintenance or collapse of Western influence and commerce in the East will help decide the fate of Europe itself. The future as well as the past history of Europe may be made in Central Asia.

THE BEGINNING OF TRANSASIATIC TRADE

TRADER establishes a more permanent connection between nations than does migration. But, if merchandise produced in one region reaches the consumer in another, it does not follow that either the producer travels into the consumer's country or the consumer into the producer's country. Goods may change hands several times, with the result that the consumer never sees the producer. Too many middlemen, however, make the ultimate price of merchandise costly, if not prohibitive, and it is to the interest of both producer and consumer to eliminate the middleman if they can.

While there had been a steady seepage of articles of trade between the East and West over a long period, it was not until after the time of Alexander the Great (d. 323 B.C.) that a more or less regular exchange of commodities took place. The East possessed many things coveted in the West — furs and spices, medicaments and perfumes, metals and semi-precious stones. But more important than any of these was one commodity greatly in demand in the West, which was produced by China and by China alone. That commodity was silk. If we knew about the beginning of the silk trade, we would know all about early Transasiatic trade. Unfortunately, our knowledge of the beginning of the silk trade is shrouded in mystery.

It is entirely possible that silk weaves from China had reached the West via Persia before the time of Alexander the Great. It has been said that the many-colored garments of the Medes were silk; no one can prove it. Aristotle, writing before the death of Alexander, describes transparent fabrics from the Island of Cos in the Ægean sea, the threads of which came from the cocoons of a caterpillar. Falke believes that Aristotle refers to a wild, not a true, silk. But it is possible that wild silks were spun in the Greek archipelago in emulation of a superior product from the East, the exact origin of which was not known. Chinese silk weaves may have come to Persia through the medium of Eastern Turkestan, and traveled from Persia to the Mediterranean.

The conquests of Alexander the Great brought the West nearer to the East. Although we have no positive proof of the fact, Chinese silk weaves almost certainly reached the Hellenistic states in the Orient and subsequently the Mediterranean countries, if not before his death, then soon after. The breakdown of the Seleucid Empire in Persia made exchange of goods more difficult, for the Parthians formed an effective barrier between China and Eastern Turkestan on the one hand and the Mediterranean on the other. The Parthians, however, came to see the advantage of a profitable trade, and in the first century B.C. silk was more frequently met with in the Roman empire, which then included Syria and Egypt.

It was not before that time, however, that Roman authors mentioned silk weaves, which they knew as "serica," or their weavers, whom they knew as "Seres." The Chinese were very jealous of the secret of silk, and the Central Asiatic middlemen had every interest in keeping the source of the rare weaves shrouded in darkness. In the first century B.C., the Seres were hardly more than a name, and their fabrics were still rare in the West. Lucanus tells how Egyptian weavers unraveled Chinese textiles for the sake of the precious thread, from which to weave diaphanous garments for Cleopatra. Only later, in the first century A.D., was a more or less regular trade established between China and the Roman empire. The Romans were in control of Egypt. They realized that their advance toward the East by the land was effectively blocked by the Parthians, so they reached eastward from Egypt by sea. During the first century A.D., there was gradually developed in the Red sea and Indian ocean a Roman merchant marine which entered into competition with Arab and Indian shippers. Toward 47 A.D., an Egypto-Roman sea captain by the name of Hippalus got hold of the secret of the trade winds, which had hitherto been jealously guarded by Arab and Indian seamen. He found out that by utilizing these winds it was easy to reach Indian ports at the mouth of the Indus in Gujerat or farther south. Thus, Roman merchantmen entered into direct trade relations with India.

In the meantime, as we have noted, the Yue-chi had extended their power over the Indo-Greek states of Northwestern India and had gradually advanced down the Indus valley, forcing the Indo-Parthian rulers of Sindh to accept their suzerainty. They controlled, as a result, the trade routes which brought Chinese merchandise through the pass of the Muzdagh from Kashgar to Balkh, and from Balkh through Afghanistan to India, routes always available to the Romans when the trade through

Parthia, via Palmyra, became difficult or impossible on account of warfare. Roman gold coins, abundant in India, were an accepted medium of exchange, and the Yue-chi rulers issued a currency in imitation of the Roman *aurei*.

Until very recently, we have had to depend on the reports of Roman writers for information concerning the importation of Chinese silk into the Roman empire. Excavations of the past few decades, however, have given tangible evidence of exchange of goods between the East and the West. Though no Chinese silks have so far come to light among the numerous textile remains of Egypt, recent French excavations in Palmyra have yielded damask weaves, indubitably Chinese in origin, from a tomb of the third century A.D. Other excavations show that Western goods penetrated the Far East at a still earlier period. Among the textiles discovered by Kozlov in Noin-Ula, Mongolia, are coverlets with classic motifs, the designs of which, if indeed not the entire fabrics, are of Syrian origin. Still more striking is a fragment of tapestry weave with a representation of Hermes discovered in Lou-lan by Sir Aurel Stein, who keenly deduces that it must date from the first century A.D.²

Although we have all this proof of early trade between China and the Roman empire, we know that East and West were not in direct communication in the first century A.D., or even many centuries later. Chinese caravans did not travel all the way from China to Parthia or to Indian ports. As in more recent times, the camel drivers were reluctant to travel beyond a given distance from their homes. Moreover, the varied country through which the caravans had to pass required varied means of transportation. Perils of travel — arduous mountains, vast deserts and wild peoples — difficulties of language, and the traditional seclusiveness of the Chinese, all stood in the way of direct contact. East and West were known to each other only by rumor which augmented or distorted fact with legend and wild imaginings. Ammianus Marcellinus, who lived from about 325 to about 391 A.D., tells us that at the famous “Lithinos Pyrgos” (the “Tash Kurgan” or “stone tower”) in the pass of the Mus-dagh, the caravans from China met the caravans from the West. There, transfer of goods was effected through a “silent market,” the seller depositing the merchandise and the buyer depositing the payment at a given spot, but buyer and seller never entering into personal contact. Similar markets have existed much later in the history of the East.

² Sir Aurel Stein, *On Ancient Central-Asian Tracks*, London, 1933, fig. 65, opp. p. 154.

ZONES OF COMMUNICATION BETWEEN EAST AND WEST

BEFORE passing on to a discussion of the development of the trade routes and the later trade between China and the West, we must take account of the geographical factors that determined the channels of trade. As we have noted, all land routes between East and West must pass through Central Asia. A glance at the map will show that this region includes Mongolia, Southern Siberia, Dzungaria, Eastern Turkestan, the Ili region and the steppe between Lake Balkash and the Aral and Caspian seas. It presents highly varied characteristics: hopeless desert alternates with semi-arid steppe, fit only for hunting and grazing; at one extreme are the humble oases of Chinese Turkestan, where crops can be wooed from the soil only by patient irrigation; at the other is the Altai region, flaunting its luxuriant forests and rich alpine pastures, its rivers and lakes abundant in fish, and its mountains rich with unexploited mineral wealth.

The East-West routes crossing Central Asia are determined by mountain ranges and valleys which run in a more or less east-westerly direction. The map shows clearly four principal zones, through which the principal trade routes run or have run in the past. These zones are, from north to south, as follows:

(1) THE OUTER MONGOLIAN-SOUTHERN SIBERIAN ZONE (Map A)

Outer Mongolia is separated from Siberia by the chain of the Sayansk mountains and, east of Lake Baikal, by the Yablonoi mountains. It includes the territory drained by the Selenga river and its affluent, the Orkhon, both emptying into Lake Baikal, and that drained by the Onon and Kerulon rivers, affluents of the Amur. South of the Sayansk mountains and north of the Altai range, it opens through valleys into the Siberian plain, which continues in bogs crossed by deep rivers toward the Ural region and toward Russia.

This zone played almost no part in the early history of trade relations between East and West. It may be that obscure fur traders passed along



MAP A
 SHOWING THE NORTHERN AND CENTRAL ZONES THROUGH WHICH THE PRINCIPAL TRADE ROUTES FROM EAST TO WEST RAN
 IN THE PAST. FROM NORTH TO SOUTH—

1. OUTER MONGOLIAN AND SOUTHERN SIBERIAN ZONE
2. ILI-DZUNGARIAN ZONE
3. CHINESE TURKESTAN ZONE

its wild trails in ancient times, moving partly on rivers, partly through the inhospitable stretches between the rivers, which were passable chiefly in winter, when the marshy ground was frozen. But no important trade route existed in this zone until the Trans-Siberian Railway had been built. It has now superseded all other routes.

(2) THE ILI-DZUNGARIAN ZONE (Map B)

An historically more important bridge between East and West is the Ili-Dzungarian zone. Dzungaria almost forms a unit with Outer Mongolia.

While the center of Dzungaria is desert, there are, in the north and south, grazing and water sufficient for fairly comfortable traffic. Dzungaria is bordered to the north by the high Altai range and to the south by the Tian-shan. It is possible to pass from Dzungaria over the easily traversed Dzungarian range into the Ili valley, and thence into the steppes of Western Turkestan. Dzungaria thus forms a natural bridge between Outer Mongolia (which is accessible from China only by crossing the Gobi) and Western Turkestan. From the Ili river, Persia is easily reached by following the well-watered slopes of the mountains (the Alexander chain and the Ala-tau mountains) which divide Central Asia from the Turkestan plain.

(3) THE CHINESE-TURKESTAN ZONE (Map B)

South of the Tian-shan range is the hollow bowl of Chinese Turkestan, bordered in the south by the Kuen-lun mountains. Easily accessible from the Chinese province of Kan-su, Chinese Turkestan is blocked in the west by the "roof of the world," the Pamirs. Trade has nevertheless always found its way west through the passes of the Kyzil-su, leading over the Pamirs to Balkh and thence to Northwestern India.

(4) THE TIBETAN ZONE (Map B)

Tibet, accessible from the Chinese provinces of Kan-su and Sze-chuan, never was important to the commerce of the world. The Kuen-lun mountains in the north, the Karakorum range in the west, the Himalayas in the south, made it difficult of access and retarded its civilization, with the result that other routes were preferable.

To these four zones correspond four main trade channels which subdivide themselves into routes, the importance of which has varied greatly

in the course of their history. The Mongolian-Siberian and the Tibetan zones, as we have shown, were of little consequence in the past. The Ili-Dzungarian lane and the Chinese-Turkestan lane, however, played a great rôle not only in the commerce but also in the history of the old world. Our study will, accordingly, center upon the Ili-Dzungarian and the Chinese-Turkestan routes, with only brief analysis of the routes passing through the other zones.

THE CENTRAL AND SOUTHERN SIBERIAN TRAILS

AS we have seen, Northern and Central Siberia have become important in the history of trade only with the building of the Trans-Siberian Railway. For caravans, this vast area, drained by the great rivers Ob, Yenisei and Lena, is most inhospitable. Its northern regions are very cold. The scattered peoples who roam them inevitably degenerate and sink to the lowest level of existence. The middle regions have a slightly better climate, but are intersected by endless marshes, passable only in winter when they are frozen over. The old world could have gained nothing by opening channels of trade through these regions. The routes would have led nowhere. The only Central Siberian products of value to the classic or medieval world were furs, and such trade channels as timidly stretched out from European Russia toward the East, via Moscow, Nizhni-Novgorod and Perm, were no more than trails along which trappers and hunters brought pelts to be marketed in the West (Map A). Today, agriculture is possible in limited sections of this region. It was not attempted by the scattered Finno-Ugrian and Mongol tribes of the past. Lumbering, another modern development, was not thought of, and, even if it had been, ancient means of transportation would have made it unprofitable.

The Trans-Siberian Railway of today follows what was probably in the past another fur-traders' trail, situated to the south of the trail from Moscow to Nizhni-Novgorod and Perm. This trail led, as the railroad today, from Samara through the Urals to what is today Omsk (Map A); thence, via what are now Tomsk and Krasnoyarsk, to the southern end of Lake Baikal, where the present city of Irkutsk is situated. From Krasnoyarsk, this route leans on the great Central Asiatic mountain chain — the Sayansk mountains, which run from west to east and are paralleled on the south by the Altai and Yablonoi ranges. The Trans-Siberian Railway follows the foothills of the Sayansk mountains, crosses the south end of Lake Baikal, and passes south of the Yablonoi mountains into a territory drained

by the Selenga, the Amur and its affluents, the Orkhon and Kerulon rivers.

The steppes of this latter territory, now inhabited by Mongol and Turkish tribes, were the seat of the Hiong-nu, or Huns, who as we have seen were for centuries the scourge of China and, finally, when pushed out of China, dislodged the Iranian and Indo-European tribes of Eastern Turkestan and drove on in devastating hordes into the heart of Europe. The routes passing through the region inhabited by the Huns led, as does the modern railroad, ultimately to China. But the Indo-European civilization of Central Asia, which was in contact with Western Turkestan, Persia and, through Persia, Mesopotamia, and perhaps also with India, took no advantage of the Southern Siberian trail. The Huns were too dangerous to face. Besides, there was available an easier route which passed from Turkestan through the Ili valley and Dzungaria into Outer Mongolia. This route, known as the Dzungarian route, is of less rigorous climate and shorter than the Southern Siberian route and played a considerable part in the early relations between the East and West.

THE ILI-DZUNGARIAN ZONE

CENTRAL Asia, south of Siberia, offers varying aspects. There is little rainfall in Central Asia as a whole, and what there is diminishes gradually toward the south. Southern Siberia is intersected by rivers which carry huge quantities of water northward from the Altai range, the Sayansk mountains and the Yablonoi mountains, but south of the Altai the situation changes.

From the Caspian sea to the Gobi desert water is scarce. Glaciers in the mountain ranges form frozen reservoirs which furnish, with the aid of the annual snowfall of the mountain peaks, water for a number of rivers. But these rivers lose themselves in rainless, arid and windswept plains, and end in swamps and salt marshes.³

The same is true of the rivers which drain the northern and southern slopes of the Tian-shan range. But, while northern winds bring a certain amount of precipitation to the northern slopes of the Tian-shan, the southern slopes of the "Celestial mountains" are entirely rainless.

As a result of all these factors there are, in what we have designated as the Dzungarian zone, three types of territory:

- (1) High mountain valleys affording alpine pastures in summer.
- (2) Well-watered lower mountain slopes, covered partly with rich forests, partly with pasture grounds and arable land. Such are the northern slopes of the Tian-shan and the fertile valleys of the upper Ili river and Ferghana.
- (3) Rainless, arid plains in which the rivers coming from the mountains lose themselves through evaporation in dry and windswept areas such as

³ The mighty Chu river, draining the Alexander range north of Ferghana, loses itself in the desert east of the Aral sea (Plate I). During the earlier Middle Ages it probably shed its waters into this sea, in reality a vast and very shallow lake, which once, when its water level was much higher than it is today, was connected with the Caspian sea. The Aral sea marks also the termination of the Oxus and Jaxartes rivers (Amu Daria and Syr Daria). The Tarim river of Eastern Turkestan ends in the salt marshes of Lop-nor. A minor river system of similar character is the Dsapkhan river of the high plateau of Kobdo-Uliassutai. The rivers coming down from the southern slope of the Altai range shed their waters into Lakes Kyzilbash, or Ulungur, Ala-kul and Sairam.



PLATE I

THE KARA-KUM DESERT WHICH LIES SOUTHWARD AND EASTWARD OF THE ARAL SEA

Photograph, Soviet Foto Agency, New York

the Aralo-Caspian steppe, the steppe around Lake Balkash, the Dzungarian desert, the Taklamakan desert of Chinese Turkestan, and the Gobi.

Communication between East and West was always possible in the Dzungarian zone by following the fairly continuous chain of well-watered mountain slopes and valleys that leads from China through Mongolia (via Karakorum or Urga) toward Persia on the one hand and Southern Russia on the other. But during long periods of history the human factor made these routes impracticable. The region was inhabited by predatory tribes. A strong central government was needed to hold them in check, and the Chinese government was rarely strong enough. The Chinese limited themselves, for the most part, to the control of more southerly routes through Chinese Turkestan, which were much easier to police than the Dzungarian routes.

Such security as obtained on the Dzungarian routes was guaranteed, not by Chinese supremacy, but by that of powerful chieftains who forced the roving nomads of Central Asia under their sway. Some order must have existed under the great Turkish Khanate which stretched, during the sixth and seventh centuries A.D., from Mongolia to Western Turkestan; it existed again from the late twelfth to the middle of the fourteenth century during the brilliant period of the Mongol world empire. So far as we know, the Dzungarian routes were important for trade only during these periods.

While of limited possibilities for trade, the Dzungarian routes were always of importance for migrations, when whole tribes, traveling with immense flocks, had to fight their way westward under pressure from the east. The westward migrations of the Yue-chi are typical of such migrations. Since they traveled with all their possessions, their families and their flocks, they were forced to choose the northern routes, which offered a fair amount of water and grass; they would have perished in Chinese Turkestan, where the land is waterless and yields only in the oases under irrigation.

Quite different from the migration of a tribe under pressure are the movements of hordes out for conquest. A well-disciplined army, such as that of Jenghiz Khan and his followers, unencumbered with herds and families, could take the risk of crossing vast stretches of desert and steppe. The conquest once achieved and the route secured by force, families and herds could gradually follow unless, indeed, the conqueror contented himself with the wives and worldly possessions of the subdued enemy.

We may assume that the movements which led to the conquests of

Southern Russia were of a more or less well-organized military nature. The Scythians, the Sarmatians and the Mongols, traveling light, could penetrate and conquer the regions about the Black sea, while the Yue-chi, under pressure and encumbered with flocks and families, were not able to cross the long stretch of the Aralo-Caspian steppe and therefore turned toward Eastern Persia, Ferghana and the southern parts of Western Turkestan, where they fought their way through the Iranian Sakas and Wu-sun and finally overthrew the Græco-Bactrian kingdom.

ROUTES OF THE DZUNGARIAN ZONE

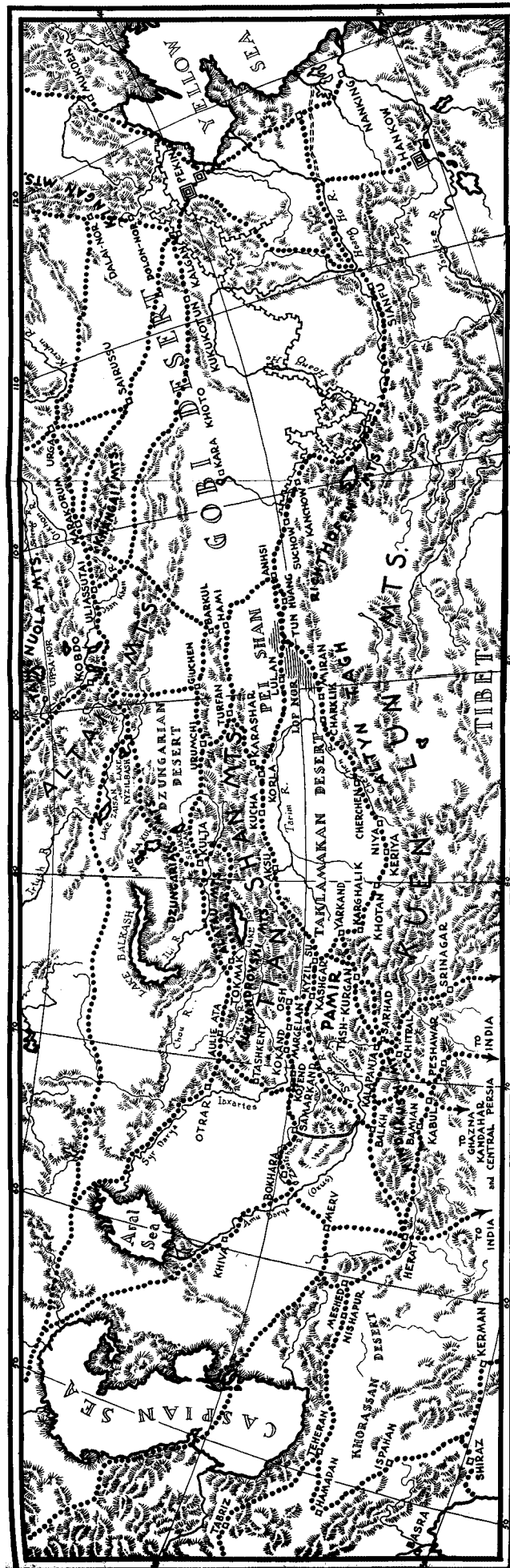
Many trade routes pass through the Dzungarian zone. Our sources of information concerning their use in the past are the geographers of antiquity, and Western and Oriental travelers of the Middle Ages. As soon as territories east of Russian Turkestan are involved, the geographers of antiquity are rather vague concerning the Central Asiatic routes. Western travelers of the Middle Ages, particularly Marco Polò, are popularly assumed to be rich sources of information. But, in reality, they too are hazy concerning Central Asia, offering little more than an itinerary, with bare mention of such cities as Almalik and Bishbalik, then flourishing and important, though now crumbled to dust.

Eastern sources, particularly Chinese, are more abundant in information. The earlier Chinese literature includes reports of campaigns waged by the Chinese against the northern and western barbarians and the reports of the early Buddhist pilgrims. Here, again, detailed information is not superabundant. But later literature, especially the reports of Chinese travelers who visited the Mongol courts, offers really valuable information, particularly concerning the eastern stretches of the routes. Among such reports, that of Ch'ang Ch'un (1221-1224 A.D.) is of extraordinary value. These medieval reports have been enlivened and confirmed by the writing of recent Western explorers, many of them Russians.

A survey of the Ili-Dzungarian routes is best made by following them from the main stations or knots in which they converge. The knots are: Peiping, Urga (or, in earlier days, Karakorum), Kulja (Almalik) in the Ili valley, Samarkand, Balkh (Bactra) and, toward Russia, Aulie-ata (Talas), Otrar, Urgenj, Saraitchik, Sarai and Tana (Sea of Azov).

(1) *From Peiping to Urga and Karakorum (and Siberia)* (Map B)

Many routes, some of which have been used from remote times down



MAP B

Showing:

1. IL-FUNGARIAN ROUTES

- (a) FROM PEKING TO URGU, KULJA (ALMALIK), SAMARKAND, TOWARD PERSIA AND INDIA
- (b) FROM SOUTH RUSSIA TO THE MONGOL EMPIRE

2. CHINESE TURKISTAN ROUTES

Northern

- (a) FROM KASHGAR EASTWARD TO KUCHA, KOBLA, LOU-LAN, TUNG-HUANG, AND CENTRAL AND NORTHERN CHINA
- (b) FROM KASHGAR WESTWARD TO IRKESHTUM, BALKH, NISHAPUR

Southern

- (a) FROM KASHGAR EASTWARD TO YARKAND, KHOTAN, CHERCHEN, AND TUNG-HUANG
- (b) FROM KASHGAR WESTWARD TO TASH-KURGAN, SAMHAD, SRINAGAR, AND INDIAN PORTS

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to the present, connect these important points. Peiping became known to Europe during the Middle Ages under the name of "Cambaluc," a corruption of Khan-Balik, "the city of the khans." Even before it became the Mongol capital of Kublai Khan in 1284, it had been, under other names, an important center for the Tatar invaders of China on account of its proximity to the northern frontier. Later Chinese rulers made it their capital because of its fortunate geographic situation. Its present name, "Peiping," dates from the Ming period.

In the time of the early medieval Western travelers to the East, Karakorum, now long since fallen to ruins, was more important than Peiping. The past knew two cities of that name, the sites of which have been discovered at a distance of about twenty-five miles one from the other. The earlier Karakorum was the seat of the Uighur Turks in the eighth century; the later Karakorum, the one known to medieval Europe, was founded by Ogotai Khan, the son of Jenghiz Khan, in about 1234. Its site is known, but has not been thoroughly investigated. It has been discussed by Bretschneider⁴ and earlier by Abel Remusat.⁵ Among medieval reports on Karakorum, that of William of Rubruck who visited the city in 1253 and sojourned there in the house of a goldsmith from Paris, Guillaume Boucher, who prospered in his trade at the capital of the Great Khans, is worthy of mention. Marco Polo describes Karakorum in his account of his voyage in 1275, but his account is based on hearsay.

Urga, a later city, is today the holy city of the Mongols and the residence of the "Living Buddha," and an important trading center where exchange of cattle, camels, horses, sheep, piece goods, tea and milk takes place among Russians, Mongols and Chinese. It lies some distance east of the site of Karakorum, but is reached by the same routes that were followed centuries ago to the old capital of the Mongols.

(a) *The Manchurian Route* (Maps A and B)

A route running east of the Kingan mountains, which separate Manchuria from Mongolia. From Peiping (about 120 miles north) to Jehol (from the early eighteenth century the summer residence of the Emperors); from Jehol to Tsi-tsi-har, thence through the Kingan mountains, to the Kerulon river and up the Kerulon valley to Urga or Karakorum, or northward to Chita or Khiakhta and Central Siberia (Baikal region).

⁴ Emil Bretschneider, "Itinéraires en Mongolie," *Journal Asiatique*, série 9, vol. I, 1893, pp. 333-336.

⁵ Abel Remusat, *Recherches sur la Ville de Karakorum*, 1825.

The northern part of the route is now followed by the Chinese Eastern Railway and a section of the Trans-Siberian Railway. This route was until modern times the most frequented route through the desert.⁶

(b) *The Western Kingan Route* (Map B)

Kalgan, an ancient city guarding a gate in the Great Wall about 120 miles from Peiping, has long been important as the guardian of one of the principal passes between China and Mongolia. It is today connected by rail with Peiping; but is still the starting point for tea caravans bound for Kiakhta. The Kingan route leads from Peiping to Kalgan; from Kalgan to Dolon-nor (west of Kingan mountains), thence straight northward to Taal'-nor, westward to the Kerulon river, and along the Kerulon to Urga and Karakorum. This route was followed by Ch'ang ch'un in 1221 A.D., when he was called to the court of Jenghiz Khan.

(c) *The Trans-Gobi Route* (Maps A and B)

From Peiping to Kalgan; from Kalgan across the desert to Urga or Karakorum. This route has several variations. For example, the way through the Gobi steppe followed by the Chinese mails is not exactly the same as that followed by the caravans. Today, motor trucks are replacing the camel caravans of the past, and, as a result, the route is of increased importance for the Siberia-China traffic which starts from Irkutsk near Lake Baikal and leads via Kiakhta toward Urga.⁷

(d) *The Western Trans-Gobi Route* (Map B)

From Peiping to Kalgan, from Kalgan straight westward about 160 miles to Kukukotun, near the Mongolian border and a short distance from the northernmost point reached by the Hoang-ho river; thence through the desert in a northwesterly direction along a mountain ridge which separates the Western Gobi from the Central Gobi. Either along this mountain ridge or along the southern slopes of the Khangai mountains to Uliassutai; then along the Dsapkhan⁸ river to Kobdo through the elevated plateau enclosed by the Altai in the south, the Tangnuola in the north, and the Khangai to the east. This plateau has an outlet toward the upper Ob river and the present city of Tomsk in Siberia.

⁶ Bretschneider, *ibid.*, p. 297.

⁷ Bretschneider, *ibid.*, pp. 299 ff.

⁸ This river is incorrectly spelled Dsankhan on our map. Another variant of the spelling is "Japkhin."

Upon reaching the Khangai mountains, the traveler may branch off to Karakorum toward the east, instead of continuing toward the northwest to Uliassutai.

This route, followed by the Chinese traveler Ch'ang Ch'un on his return voyage from Jenghis Khan's residence in 1224, forms the shortest connection between China and Siberia. Toward the middle of the past century, it preoccupied the geographer Ritter, who recognized its importance and regretted that no information was available concerning the border province of Kobdo-Uliassutai, in which the Chinese had established themselves firmly under K'ien Lung (1736-1795 A.D.). The Chinese did not permit any through traffic from Siberia to China by this route, for they realized the danger of keeping so easy a route open. Siberian traffic was led exclusively through the more eastern routes. The city of Uliassutai (the name means "Poplared") was founded about 1750. It was visited in the late eighties by Shishmareff. Since Outer Mongolia is now one of the Soviet republics, it is probable that this route will prove of great importance in case of complications in the Far East.⁹

(2) *From Urga or Karakorum to Kulja (Almalik) (Map B)*

Almalik ("Apple-town"), the modern Kulja, situated in the vast and fertile valley of the Ili river, was a seat of the Mongols in the thirteenth century and an important trading-post. It had a Christian community of some importance during the days of the great khans, and many Christian travelers from the West passed through the city. There Benedict of Poland met martyrdom. Benedict had accompanied John of Carpino, the messenger of the Pope, to the great Mongol *Kuriltai* or assembly of notables, held in 1246 near Karakorum. Lying, as it does, at the gateway to Russian Turkestan, the modern city of Kulja still is important both in the trade and in the political economy of Asia.

(a) *The Desert Route from Karakorum via Barkul and Hami (Map B)*

Between the Altai and Tian-shan stretches the Dzungarian desert, the

⁹ Ritter, *Erdkunde von Asien*, vol. I, pp. 228, 229, 694, 1059-1064. Bretschneider, *Medieval Researches from Eastern Asiatic Sources: Fragments Towards the Knowledge of the Geography and History of Central and Western Asia, from the Thirteenth to the Seventeenth Centuries*. London, 1910, 2 vols. See vol. I, p. 57, where he quotes the report on Shishmareff's visit in Uliassutai from Petermann's *Geographische Mittheilungen*, 1870, p. 116. See also the account in G. N. Potanin, *Mongolia*, I, p. 235. For Ch'ang Ch'un's trip on this route, see Bretschneider, *Medieval Researches*, vol. I, p. 103, where the similar itineraries of Elias in 1872 and of Pevtsoff in 1878 are mentioned.

western prolongation of the Gobi, terminating in the west at the Dzungarian range. This desert is difficult, but can be crossed so long as the route is safe from marauders. On the easternmost end of the Tian-shan range are the oases of Barkul and Hami. These oases are of importance, as they are linked, by a route through the Pei-shan desert, with the great Chinese caravan route from Kan-su to the Middle Tarim river and the oases of Turfan and Kara-shahr.¹⁰

From Hami and Barkul the Dzungarian route leads along the southern slope of the Tian-shan to Guchen and Urumchi (called Bishbalik, "the five towns," during the Mongol period). Urumchi is, again, a fairly important center, as it connects, via Turfan and Kara-shahr, with the Tarim basin in Eastern Turkestan. From Urumchi the route continues westward along the mountain slopes to Kulja.

(b) *The Route via Uliassutai and the Dzungarian Desert* (Map B)

A second route, which also involves a rather dangerous crossing of the Dzungarian desert, begins at Karakorum, crosses the Khangai range and leads into the Kobdo-Uliassutai plain. After traversing this plain along the Dsapkhan river, the Altai is crossed. Then the trail turns southward through the very inhospitable Dzungarian desert, joins the way running along the northern slopes of the Tian-shan at Guchen and continues from there to Kulja.

This route seems to have been greatly favored during the Mongol period. In all itineraries the names of Bishbalik (Urumchi), Djambalik, Lake Sairam and Almalik (Kulja) are mentioned. It seems, however, that the route split up, for the crossing of the Dzungarian desert, into different tracks, leading from the Altai passes either to Guchen or to Bishbalik. Notices in the reports of medieval travelers seem to confirm this fact.

In the itinerary of Ye-lü Ch'üts'ai, a minister of Jenghiz Khan (1219 A.D.), the names of the Altai mountains, Bishbalik, Lake Sairam and Almalik are successively mentioned.¹¹ Ch'ang Ch'un's itinerary in 1221-1224 A.D. mentions Ho-La-Siao (Uliassutai) — probably the river from which the comparatively modern city of Uliassutai gets its name, the difficult crossing of the Altai by cart, the crossing of the Po Ku T'ien ("field of white bones") *i.e.*, an old battle-field and a region strewn with black pebbles, followed by a sandy desert, which can be identified as the

¹⁰ See below on the Chinese Turkestan routes.

¹¹ Bretschneider, *Medieval Researches*, vol. I, pp. 9-24.

Central Dzungarian desert. The north slope of the Tian-shan is reached north of Karakhoto; *i.e.*, east of Bishbalik, which Ch'ang Ch'un gives in the Chinese form of Bie-sz'-ma. The way proceeds west to Bishbalik then to Djambalik, across another stretch of desert, to Lake Sairam and, through a mountain pass, to Almalik.¹² We know that Hulagu Khan, when setting out for the conquest of Persia in about 1251, had all the grazing grounds between Karakorum and Bishbalik set aside for his cavalry and proceeded via Almalik (Kulja).¹³ Ch'ang Te, ambassador from Mangu Khan to Hulagu Khan, crossed the Altai range, the Dsapkhan and the Urungu rivers and moved on to Almalik, passing north of Bishbalik.¹⁴ Of the Western itineraries, only that of King Hethun of Armenia (1254-1255) A.D.) gives much detail on this stretch of the route. Bishbalik, Djambalik, Lake Sairam and Almalik are mentioned as having successively been touched by the Armenian king on his return voyage. On the outward voyage he chose a more northern route, running north of Lake Balkash, along the upper Irtysh river and from there probably through the Altai via Uliassutai to Karakorum.¹⁵

We may safely assume that other travelers coming from the west, whose reports are generally not very clear so far as these regions are concerned, traveled also either on the route from Almalik to Lake Sairam to Djambalik to Bishbalik to Guchen to the Dzungarian desert to the Altai passes to the Dsapkhan river to Uliassutai to the Khangai passes to Karakorum, or via the northern route followed by King Hethun outward, north of Lake Aral to north of Lake Balkash to Irtysh to Zaisan-nor to Lake Kyzilbash to the Urungu river to the Altai passes, and as above.

Both of these routes, particularly the northern one, were of course only practicable in a period of "pax Mongolica," when the nomad tribes were held under strict discipline.¹⁶

(c) *The Route via Uliassutai, Dzungarian Range and Lake Sairam*
(Map B)

Chinese travelers mention in their records so many of the mountains and lakes between the Altai range and Lake Sairam that we must assume

¹² Bretschneider, *ibid.*, vol. I, pp. 57-67.

¹³ Bretschneider, *ibid.*, vol. I, p. 114 ff.

¹⁴ Bretschneider, *ibid.*, vol. I, p. 124.

¹⁵ Bretschneider, *ibid.*, vol. I, pp. 164-172.

¹⁶ For this route see Bretschneider, *Researches*, vol. I, p. 64, footnote 151. While the Central Dzungarian desert is very inhospitable, the zone of the northern slopes of the Tian-shan is covered with rich grazing lands and luxuriant forests. See Sir Aurel Stein, *On Ancient Central-Asian Tracks*, pp. 10, 11, 36, 253, 281.

a third practicable route from Karakorum, leading across the Altai, following the Urungu river to Lake Kyzilbash and thence to Lake Ala-kul and crossing the Dzungarian range to Lake Sairam, there to join the two routes described above.

(3) *From Kulja (Almalik) to Samarkand and Toward Persia and India*
(Map B)

There are few Eastern cities whose names awaken more dreams of splendor than do those of Samarkand and Bukhara. They were already flourishing cities and trade centers when they were conquered by Alexander the Great. After their conquest by the Arabs, at the end of the seventh and the beginning of the eighth centuries, they became centers of Islamic culture. They were destroyed and pillaged by the Mongols under Jenghiz Khan in the thirteenth century. Bukhara retained its independence after this invasion, and became a great center of learning. Samarkand was the capital of Timur (Tamerlane), who claimed descent from Jenghiz Khan, and under him and his successors it became a splendid city, many of whose blue-domed buildings still stand as witness of a great and rich past. Samarkand and Bukhara fell under Russian protectorate in the last half of the nineteenth century and today are important centers in the group of Soviet republics into which the area formerly known as Russian Turkestan has been divided.

Samarkand today boasts leather factories, cotton-cleaning mills, flour mills, distilleries, pencil and brick factories. But it is still a center for trade in what have long been commodities on its market — cotton, silk, wheat, rice, horses and asses, and fruits. In Bukhara's seven miles of bazaar, carpets and textiles, karakul and copper-wares are still sold, as they must have been for many years in the past, and its book bazaar, far-famed at the height of its power in the sixteenth century, is still the principal book market of Central Asia, into which an occasional volume from libraries built up when the city was a center of civilization finds its way.

Perhaps nothing gives a better idea of the ebb and flow of populations through the great highway of Central Asia than a few facts concerning the modern inhabitants of Russian Turkestan. The population of Bukhara includes Uzbeks, Turkomans, Tajiks, Afghans, Arabs, Hindus, a group of Jews said to have come there from Bagdad at the time of the Captivity, and, of course, Russians. Within the state of Uzbekistan, of which Samar-

kand is the capital, an autonomous state, Tajikistan, has been set up for those who speak the Iranian language.

The old trade route between Almalik and Samarkand is clear in all its details. The best information concerning it is, here again, that furnished in the account of the journey of Ch'ang Ch'un (1221-1224 A.D.). The route follows, first, the rich Ili valley, already given over to agriculture; for Ch'ang Ch'un records that the farmers around Almalik were experts in irrigation.

This valley has not escaped the attention of modern Russia. The Tsarist government occupied it from 1871 to 1881, but was forced at the end of that period to return it to China. Today the Ili valley and its products feed the modern trade route from Samarkand and Tashkent to Semipalatinsk and, beyond, to Omsk and Tomsk on the Trans-Siberian Railway. The Imperial Russian government had already planned a rail connection to bring the cotton of Turkestan into Siberia and Siberian products into Turkestan and thence to Persia. This railroad, which follows in part the ancient route traversed by Ch'ang Ch'un, has now been built; it is known as the Turk-Sib Railway. A railway to Ili would prove a natural feeder for this route, as well as a line of great strategical importance. Through the Ili route, as well as through the Kobdo-Uliassutai route described above, Russia will be able to reach out toward China in case of complications in the Far East.

Following the old route westward through the rich valley of the Ili river, the traveler sees to the north the Dzungarian foothills, to the south the Ala-tau range, which separates the Ili valley from the valley of the Chu river. The Chu receives its waters from Issik-kul (the "hot lake") and flows northwestward into the arid steppe, where it loses itself in a swampy lake. The Ili river runs into the steppe surrounding Lake Balkash. The trade route abandons the course of the Ili as soon as it enters the steppe, and follows the slopes of the Ala-tau range toward the Chu river, which it crosses at a place which must correspond to the modern city of Tokmak, and continues along the track of the Turk-Sib Railway as far as Tashkent. It first follows the well-watered slopes of the Alexander range, which shed their waters into the Chu river, crosses the range to the Talas river basin in which is the old city of Talas, near the modern city of Auliata.

Talas was one of the capitals of the khanate of the Turks in the sixth and seventh centuries. A Byzantine embassy sent by Justin II visited the

khan there in 569 A.D. and discussed with him the possibility of an alliance against the Sasanian Persians and the opening of a trade route to Byzantium around the northern end of the Aral and Caspian seas. Sixty years later, the famous Chinese Buddhist pilgrim, Hsuan Tsang, reached Issik-kul, visited the Turkish khan in his camp north of the lake and was then sent with an escort to Talas.

The Talas river sheds its waters into the Jaxartes (Syr Daria) at Otrar, which is an important trading center and point of connection for Southern Russia and Khiva. After leaving Talas, the route crosses the Kartau range and leads to what is now Tashkent, the terminal of the Russian Trans-Caspian Railway and the beginning of the Turk-Sib Railway. From Tashkent, it continues southward to the Jaxartes. At this point, it sends out an important branch into the mountain-sheltered valley of Ferghana, via the cities of Khodjent, Kokand and Marghelan.

The city of Khodjent, which is identical with Alexandria Eschate ("the furthest Alexandria"), where Alexander the Great turned southward after the conquest of all Persia, is the western gateway to Ferghana, a broad valley, well watered and of great agricultural wealth. The fame of Ferghana spread as far as China at an early period. One part of the mission of General Ch'ang K'ien to the countries of the western barbarians was to secure for breeding purposes some of the famous horses of Ferghana, which were much statelier than the small Chinese horses. A keen observer, he found that the horses of Ferghana were fed with a special fodder, of which he secured seeds. This fodder was *medicago sativa*, or alfalfa, which was introduced into China after Ch'ang K'ien's return in 126 B.C.¹⁷ In Ferghana, Ch'ang K'ien also learned of the grape-vine, which, with the pistachio, pomegranate and peach, was subsequently introduced into China, and he brought back with him the walnut.

The route Kulja-Samarkand continues, after crossing the Jaxartes, toward Samarkand, which is situated on the Zarafshan river, which sheds its waters into the Oxus (Amu Daria).

Bukhara is slightly north of the junction of the two rivers. From Bukhara, an important trade route continues down to the Oxus toward Khiva and Urgenj, near the point where the Oxus sheds its waters into the Aral sea. Ch'ang Ch'un, describing the mountains he crossed as he traveled southward from Samarkand toward the middle Oxus, speaks

¹⁷ Berthold Laufer, *Sino-Iranica; Chinese Contributions to the History of Civilization in Ancient Iran*, Chicago, Field Museum of Natural History, Anthropological Series, vol. XV, no. 3, pp. 210-211.

of a very narrow defile known as the "iron gates," which were later described by Clavijo, the ambassador of Henry III of Castile to the court of Timur (Tamerlane) in 1405. From Urgenj the traveler reaches Tocharistan, the ancient Bactria. Balkh, the capital (once Bactra), is a knot at which various routes converge. There terminates the southern trade route from China to the west via Chinese Turkestan and the routes coming from India and Persia.

Balkh is of great antiquity. Remains in and near the city speak of a long past. Though it lay in the devastating path of Mongol hordes under Jenghiz Khan and, later, under Timur, it was still a great city in the time of Marco Polo. It is now only a wretched settlement. The province of Khiva, too, which once sent its caravans to Balkh, has declined from former prosperity, as a result of a natural desiccation caused in part by the shifting of the course of the Oxus, on which its life depended, and of the neglect and consequent deterioration of the irrigation system, caused by civil war.

(4) *The Routes between Southern Russia and the Mongol Empire (Karakru)* (Maps A and B)

In the route system which connected the Mongol empire with the Western world, the routes connecting it with Southern Russia are of particular importance. The western terminus of these routes was Kiev. It must be remembered that from 1236 A.D. all Southern Russia was in the hands of the Mongols. The khanate of the Golden Horde gave way only gradually before the growing power of the Russian princes of Moscow and was not finally defeated until 1477. The khanate of the Crimea lasted until 1783. Western travelers from Central Europe, such as John of Carpino in 1245, passed through Silesia and Poland, crossed the territory of the dukes of Volhynia and entered the country of the infidels. Kiev was the first Mongol capital reached. Travelers from the Mediterranean proceeded by ship to one of the Black sea ports, which maintained a lively trade, particularly with the republic of Genoa. One of these ports was Soldaia on the south coast of Crimea, another was Tana, corresponding to the present city of Rostov, at the mouth of the Don, near the sea of Azov. From there the travelers would proceed by ship up the Don river to the point where the Don is nearest to the Volga, the old Bulgar country. They would cross the narrow stretch of land between the Don and the Volga, cross the Volga and reach the great capital or encampment of the Mongols at Sarai. From there they would proceed by land eastward to

the mouth of the Ural river. Slightly north of the Caspian sea was another great Mongol capital or encampment called Saraitchik ("the little Sarai"). From Saraitchik three routes were open:

(a) *The Direct Route through the Steppe to Irtysh and Altai.*

This route was followed by William of Rubruck in 1254. It also was the route of the Armenian King Hethun on his outward trip. This direct route through the steppe can hardly have had any commercial importance, as it passes through desert most of the time; it must have been a quick route for mail and messages between the central government in Mongolia and the vassal states in Southern Russia. It started from Sarai or even a point further north, passed by Saraitchik or a point further north and crossed the steppe without touching the northern points of Lake Aral and Lake Balkash until it reached the upper Irtysh. From there it passed via Lakes Zaisan-nor and Kyzilbash to the passes crossing the Altai and joined the Dsapkhan-Uliassutai route to Karakorum.

(b) *The Route North of the Aral Sea and via Otrar*

This route started from Saraitchik, crossed the steppe to the northernmost point of the Aral sea and reached the mouth of the Jaxartes. It followed the Jaxartes upstream as far as Otrar, where the Talas river sheds its waters into the Jaxartes. From Otrar the traveler followed the Talas river to Sairam and Talas, where the route joined the Great Ili-Dzungarian route to Persia.

This, again, is a route for fairly quick communication rather than for commerce. Pegoletti, in the early fourteenth century, states, in his *Practica della mercatura*, that the trip from Saraitchik to Otrar takes fifty days and that the merchants generally prefer the more devious route via Urgenz on account of the much greater commercial possibilities which it offers.

(c) *The route Saraitchik-Urgenj-Otrar*

This route seems to have been the most popular trade route between Southern Russia and Mongolia. The traveler proceeds from Saraitchik through the Trans-Caspian steppe as far as Urgenj, which is located at the south end of the Aral lake on one of the older channels of the delta of the Oxus (Urgenj was later supplanted by Khwarizm or Khiva). All early geographers and travelers agree in the statement that Urgenj was a very important commercial center, as it communicated via the Oxus (Amu

Daria) with Eastern Persia and India. The travelers were able to sell in the bazaars of Urgenj their less important or valuable merchandise and could then proceed eastward either by crossing the steppe in a straight eastbound line to Otrar or by following the Oxus as far as the point where it receives the Zarafshan river, and there falling into the great Persia-Mongolia route via Bukhara and Samarkand. Pegoletti states that the trip from Saraitchik to Urgenj takes twenty days, while Urgenj to Otrar takes thirty-five days. He states further that the trip from Otrar to Almalik takes forty-five, the trip from Almalik to Kan-chou in China another sixty days. As the latter city is located on the route from Central China to Lop-nor and Chinese Turkestan, it is clear that this southern route must have been reached by proceeding via Almalik to Bishbalik (Urumchi) and hence through the depression in the Tian-shan to Turfan and from there either via Kara-shahr, Korla and Lop-nor to the China Chinese Turkestan route, or from Bishbalik via Barkul and Hami to An-hsi on the same route.

GENERAL REMARKS ON THE MONGOLIAN TRADE AND CARAVAN ROUTES

In a recent past and in the present, the traffic on these Central Asiatic routes is nearly always carried on camel-back (Plate II). It is rather surprising to find that during the Mongol period the voyagers frequently traveled in carts with caravan tops. This seems to go back to an old Mongol custom. The nomad changed his abode by moving a tent set on wheels. The cart used was probably similar to the Chinese carts with covered tops seen on the stone reliefs of the Han period. These Chinese carts are horse-drawn. Use of horses was of course out of the question in Central Asia. The Central Asiatic carts were drawn by oxen, and were probably akin to the oxcarts seen today in Asia Minor. Travel in such vehicles over stony roads and mountain passes must have been exceedingly tedious and fatiguing, even conceding that the roads may have been better during the Mongol period than today.

It needed a good deal of Oriental passivity to be able to stand endless voyages under the burning sun, in freezing cold or amid sandstorms. The slow procession of a caravan of oxcarts cannot be imagined without the thought of the melancholy wailing produced by the grind of solid wheels on axles, such as still echoes through the lonely roads of Asia Minor. The fate of the carts will soon be sealed by the rapidly spreading use of



PLATE II
CARAVAN ON ITS WAY TO ULAN-BATOR (THE ANCIENT URGA), MONGOLIA
Photograph, Soviet Foto Agency, New York

motor trucks, which have indeed already begun to invade even the old routes of Central Asia.

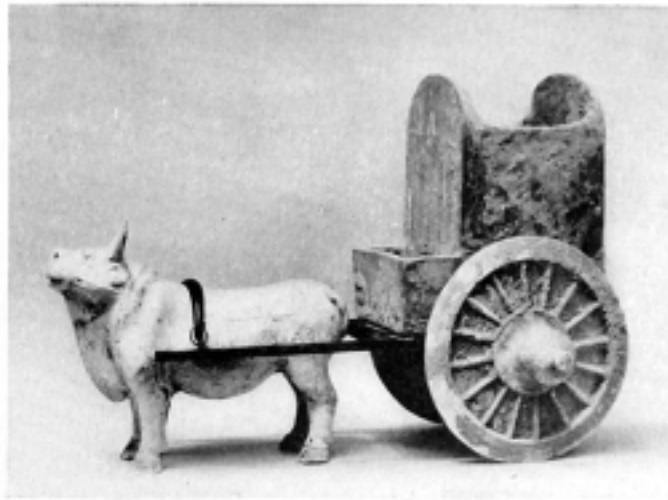
No complete picture of medieval traffic on Central Asiatic routes can be formed without a realization that, during the Mongol period and also during the period of Timur in the late fourteenth and early fifteenth centuries, the Near East and Central Asia were not yet handicapped by the competition of modern industrialism. Vast provinces in which the native industries are today ruined by the competition of the European machine-made article, were then flourishing centers of industry and exchanged manufactured goods. Thus we find that out-of-the-way and somnolent places such as Kulja, Talas, Otrar, Urgenj were once great emporia in which the products of the East were traded and exchanged. The desolate inferiority of these vast regions today contrasts strangely with our imagination of the vividly pulsating economic life of the past.

Civilizations come and go, according to the course of life mapped out by Fate. The study of the old trade routes of a once flourishing civilization is of particular interest at the beginning of a new era in which the Orient is beginning to rebuild itself on modern lines. The motor truck, the airplane and the railroad will be powerful agents in its reconstruction, which, for a great part, will be achieved at the expense of European supremacy. New elements, unknown to the past, will give impetus to the new development. During the Middle Ages, Siberia, north of the Central Asiatic Alps, had hardly anything save furs to offer to the trade of the world. Today the Trans-Siberian Railway begins to tap the real resources of these regions. The Altai mountains are rich in minerals. The Soviets are planning a great industrial center in the Altai region and intend exploiting the immense store of electric power of the Angara river, into which flow the waters of Lake Baikal. Thus Siberia north of the alpine district and in the alpine district itself will become a great center of civilization—agricultural, metallurgical and commercial. Today already the products of Chinese Turkestan, the Ili-Dzungarian region and Mongolia flow toward the north rather than toward China or Persia. Grouped around this new center, the remote regions of Central Asia will again partake in the commerce of the world, from which they have been excluded since the downfall of the Mongols.¹⁸

It is possible that the development of Central Asia may be retarded by

¹⁸ Chinese Turkestan, limited in its possibilities, will have a lesser share in this development than the regions farther north.

the conflict which seems to be developing between Russia and the growing power of Japan. Japan is today jealously watching what happens in Inner Mongolia, and it is rather doubtful whether Russia will be able to hold the maritime Provinces, which form the natural outlet of Central Asia toward the Pacific. Fate will decide whether Russia or Japan will be the leaders in the inevitable development of Central Asia.



CHINESE OXCART. POTTERY TOMB FIGURE, HAN DYNASTY.
THE METROPOLITAN MUSEUM OF ART, NEW YORK

THE CHINESE TURKESTAN ROUTES (Map B)

AS we have stated before, the silk trade was the determining factor in the trade relations between China and the West. From earliest times, the silk caravans moved through Chinese Turkestan and thus made the trade routes of that region the most important of the early arteries of communication. The Dzungarian routes offered fewer geographical difficulties than those of Chinese Turkestan, but human factors rendered them unsafe for regular trade.

We have touched briefly on the fact that only a sedentary population can exist in Chinese Turkestan. As a result of scanty rainfall, there are no grazing grounds adequate for the nomad. The inhabitants of Chinese Turkestan must be agriculturists, and they must be agriculturists sufficiently advanced in civilization to have learned methods of irrigation. While the tribes of Dzungaria and the Ili valley, where grass was abundant, were nomads addicted to robbery and warfare, the inhabitants of Chinese Turkestan were rooted to the soil. The nomad could plunder caravans and disappear into country known only to him. If the agriculturist attacked a caravan, he could easily be found and punished.

Chinese Turkestan, though unfitted for nomadic life, was always subject to inroads from the nomads. Raiders from the north crossed the mountains, subdued the peaceful agriculturists of the oases, levied taxes on them, and plundered caravans. Only by bringing Chinese Turkestan under Chinese rule, by occupying the passes in the Tian-shan to ward off the barbarians from the north, were the Chinese able to establish regular trade with the West through Chinese Turkestan.

The trade routes of Chinese Turkestan were of course, like all others, controlled by geographical conditions. The region may be compared with an oval bowl, surrounded on all sides by high mountains. The bowl itself has an average elevation of a thousand meters above sea level. To the south is the Kuen-lun range (the eastern part of which bears the Turkish name Altyndagh or "gold mountain"). To the north is the Tian-shan range and its southeastern continuation, the Kuruk-dagh. The Kuen-lun

and Tian-shan ranges converge in the stupendous elevations of the Karakorum range and the Pamirs. The Tian-shan range is climatically of great importance. Clouds from the north break on its northern side and water the Ili valley and the Dzungarian plain. They never cross the range, with the result that Eastern Turkestan is rainless.

Although rainless, Chinese Turkestan is not waterless. Enormous glaciers, remains of the ice cap of the last glacial period, together with the yearly snowfall on the high mountain peaks, supply water to a number of short rivers which are lost through evaporation in the Taklamakan, the great central desert of the bowl. Since the stored glacial ice is gradually being used up, the water supply of Chinese Turkestan has been diminishing in historic times. The country boasts only one river of any importance. This is the Tarim, which originates from two branches. The first is the Yarkand, which starts from the city of the same name at the southwestern end of the bowl and makes its way toward the northern rim of the bowl to a point south of Aksu, where it meets the second branch, the Khotan Daria, which issues from the Kuen-lun range, enters the plain at Khotan considerably east of Yarkand, and crosses the Taklamakan to join the Tarim. After receiving the Khotan Daria, the Tarim river continues eastward, receiving several other affluents, along the northern rim of the bowl, turns southeastward to meet the Cherchen, which comes from the south rim of the bowl, and finds its end in the lake called Lop-nor at the west rim.¹⁹

If we speak of rivers and lakes, these words are not to be understood as we generally understand them. Lop-nor is today practically empty; it resembles the southern dry bed of the Great Salt Lake of Utah. The rivers, with few exceptions, are simply stretches of salt marshes, along which water drains, sometimes above but often below ground. Water is so scarce that human existence is possible only by careful management of the supply where it issues from the mountain. As a result of the diminution of this supply, as well as of the intrusion of Tibetan and Turkish tribes, inferior in civilization to the original Iranian settlers, the irrigated areas have gradually decreased. The sites of a number of early medieval settlements have been discovered in regions where today water for irrigation is wholly lacking. Add to lack of water extremes of temperature, extreme heat in summer and extreme cold in winter, and sometimes wide variation

¹⁹ For a vivid description of the Tarim, which is navigable for small craft, see Sven Hedin, *Central Asia and Tibet*, London, 1903, vol. I, pp. 63 ff.

within the same twenty-four hours, add choking, blinding dust-storms, shifting sands or rocky trails, with resulting isolation of inhabitable areas, and it will be readily understood why Chinese Turkestan has proved uninhabitable excepting in two chains of oases which follow the northern and southern rims of the bowl and converge at the east in Kashgar, the capital of Chinese Turkestan. Along these chains passed the two great caravan routes, the northern Chinese Turkestan route and the southern Chinese Turkestan route.

Of these routes, the northern was the more important. It started at Kashgar and ran south of the Tian-shan range via Maral Bashai to Aksu and Kucha, where it connected with the Ili valley (southern Dzungarian) route. From Kucha it ran eastward to Korla, thence southeastward along the southern slopes of the Kuruk-dagh to the ancient site of Lou-lan on the northern shore of Lop-nor. It circled the northern end of Lop-nor and passed into China proper to Tung-huang, now famous as an archeological site, to An-hsi, Su-chou, Kan-chou, and beyond to Central or Northern China (Map B).

The weakest links in this chain of oases lay between Korla, Lou-lan and Tung-huang. In this region, during historic times, water became so increasingly scarce that the route had to be abandoned for regular caravan traffic. A detour was chosen. At Korla, caravans turned northeastward to Kara-shahr and the Turfan oases; from Turfan they proceeded to Hami and from there southeastward to join the great trade route to China at An-hsi.

The southern trade route of Chinese Turkestan, though even more arid than the northern route, was important because it led through regions in which jade, so highly esteemed by the Chinese, was found, particularly through Khotan, which, from the fourth century on, was of considerable importance, not only as a center for jade but as a producer of silk.²⁰

The southern route, like the northern, started from Kashgar. It ran southeast to Yarkand, a very important oasis, and thence, via Karchlik, to Khotan, a vast oasis on the river of the same name. From Khotan it proceeded eastward to Keriya and Niya. Then followed a difficult, waterless stretch from Niya to Cherchen. From Cherchen it went along the south shore of the Lop-nor to Tung-huang joining with the northern Chinese Turkestan route midway between Lop-nor and the last named city.

²⁰ Stein, *op. cit.*, p. 166.

SILK CARAVAN ROUTES FROM KASHGAR TOWARD THE WEST (Map B)

So much for the caravan routes from Kashgar eastward. We must now see how silk was brought from Kashgar to the West.

Ptolemy, following Marinus of Tyre, repeats the report of the Macedonian trader, Maës Titianus, telling of the famous post called *Lithinos Pyrgos* or "stone tower" on the confines of Kashgar in the mountain valley of Komedoi, whence the caravans were wont to start for the country of the silk-producing Seres. Schoff identified this post with Tash-kurgan, in Sarikol, on the upper Yarkand river.²¹ Tash-kurgan indeed means stone tower in Turkish, but there are many Tash-kurgans in Central Asia. Sir Aurel Stein has shown that the stone tower of Ptolemy must have been located in the Kyzil-su or Surkhab valley, which forms a natural connection between Kashgar and the West.²² This valley is called by medieval Arab geographers "Kumedh," which is certainly the same word as the Greek "Komedoi."

According to Ptolemy, this stone tower was a very important point, and indeed it must have been. There Western merchants, such as the agents of Maës Titianus, bargained for the silks and other precious commodities of the East, loaded their merchandise on beasts of burden who carried the costly load to Indian ports in the delta of the Indus, or, when political conditions permitted, through Persia and Mesopotamia to the eastern confines of the Roman empire.

Thanks to the investigations of Sir Henry Yule and Sir Aurel Stein, the trade route from Kashgar to the West has been clearly determined. It led westward from Kashgar along the Kyzil-su, the river to which the oasis of Kashgar owes its life. It proceeded via Irkestum, from the valley of which there exists a somewhat precarious connection with Ferghana through the Terek pass. It followed the Surkhan to where it joins the Oxus, or Amu Daria, paralleled the Oxus for a short distance, and then bent southward to Balkh, the ancient Bactra. Balkh, the capital of the province of the same name, was a most important center, for there converged certain routes, though not the main ones, which led to India.

From Balkh the silk route followed the foothills of the mountains to ancient Herat, today belonging to Afghanistan, but in the fifteenth century a center of Persian art and science. From Herat the route turned north-

²¹ Wilfred H. Schoff, *The Periplus of the Erythraean Sea*, New York, 1912, p. 269.

²² Stein, *op. cit.*, pp. 292-293.

westward, running either directly or via Meshed to Nishapur, where it merged with the Merv-Bukhara-Samarkand-Tashkent route. From Nishapur both routes followed the same tract toward Central Persia, and from there to Iraq and the Mediterranean world. The route Kashgar-Irkestum-Balkh-Herat-Nishapur was the great ancient silk route. Sometimes, however, in periods of trouble with Persia, it was preferable to avoid Persian territory and to send the goods directly to an Indian port such as the ancient Barygaza (Map C), which corresponds to the present Karachi, to be shipped thence by sea. This Indian route started at either Kashgar or Yarkand and entered the Pamirs at Tash-kurgan. From Tash-kurgan a secondary line of communication led to Kala Panja and thence eastward to Balkh (Map B). The main route, however, turned first southward, then westward, to Sarhad, from where it went directly southeast to Srinagar or veered westward to Chitral and the Kabul river valley, where it linked up with the Persian-Indian trade route, coming from Kabul, and proceeded via Peshawar into the Indus valley.²³ All these passages through the Pamirs were exceedingly difficult. At best, they were passable only in the warm seasons and even then they were subject to the exactions of wild mountain tribes. They were never, therefore, of any importance in comparison with the main silk routes into India from Kashgar to Balkh.

CHINESE EXPANSION TOWARD WESTERN TURKESTAN

We have seen how the protection of the silk routes made Chinese control of Chinese Turkestan an economic necessity, and indeed that control has been one of the most important ends of Chinese policy for more than two thousand years.

The Chinese expansion toward Western Turkestan began in the Han dynasty under the emperor Wu Ti (140-87 B.C.). We have mentioned the embassy under the General Ch'ang K'ien sent by Wu Ti to the Yue-chi, a people of Indo-European stock, who, as we have seen, were at that period under pressure of the Mongolian Hiong-nu or Huns. The Chinese hoped

²³ The Persian-Indian trade route followed, in part, the western Central Asiatic trade route. Since connection between Central Persia and the eastern province of Khorassan was difficult on account of the wide stretches of desert that lay between, it was preferable to follow the silk caravan route as far as Herat. From Herat the Persian-Indian route ran southward along the foothills of the Afghan mountains to Sabzawar. From there it ran southeast toward the upper reaches of the Helmund river, which it crossed at Girishk, and proceeded eastward to Kandahar. From Kandahar it turned northeast to the ancient capital of Ghazni and thence to Kabul, from where it followed the Kabul river to Peshawar and the Indus valley. Another route led from Kandahar southeast into Baluchistan and via Quetta into the Indus valley.

to find in them a ready ally against the Hiong-nu, who were troubling the northern borders of the Chinese empire. After many incidents, including a long captivity among the Huns, Ch'ang K'ien reached the Yue-chi, who were then settled in the western part of Chinese Turkestan and in the eastern part of Western Turkestan. He had hoped to form an alliance between them and the Chinese against the Hiong-nu and to induce them, if possible, to return to their old abodes and to aid the Chinese in keeping off their old enemies. But Ch'ang K'ien found that the Yue-chi were satisfied with the new territories they had won from the Græco-Bactrians and saw more promise in the hope of expansion toward India than in a renewed fight with the Hiong-nu.

His mission was a failure from the diplomatic angle, but it was very fruitful in other respects. We have mentioned the plants he introduced into China from Ferghana, and the sturdy horses. He also brought back valuable trade information. When he returned to China, in 126 B.C., via India, the Pamir passes, and thence by sea, in order to avoid the Hiong-nu, whom he had good cause to dread, he was able to instruct his master about the position of the Yue-chi in their new territories, about the strength of Parthia, and the trade between the Parthians and the Yue-chi, and about India. His reports brought the Chinese policy in Western countries on a firm basis. It became the mission of China to make the trade routes to the West secure as far as the Yue-chi territory. This necessitated the conquest of Chinese Turkestan.

Protected in the north by the Great Wall against the Hiong-nu, Emperor Wu Ti began a vigorous policy against the threat of the Hiong-nu on the Western border (Plate III). The Kan-chou district in Kan-su fell into Chinese hands in 121 B.C.

A fortified wall, similar to, though less important than the Great Wall, was constructed along the highway leading from Kan-su westward, to keep out the dreaded Hiong-nu. In 102 B.C. a Chinese army set out for the conquest of the western countries under General Li Kuang Li, who went as far as Ferghana and definitely established Chinese supremacy over all Chinese Turkestan. The Hiong-nu were thus shut off from the caravan route and were confined to their territories north of the Tian-shan in Dzungaria.

Internal troubles connected with the fall of the Western Han dynasty (9-22 A.D.) jeopardized Chinese supremacy for a short time, but under Emperor Ming Ti (58-76 A.D.) the Chinese expanded with new vigor.



PLATE III
THE GREAT WALL OF CHINA

Campaigns were led by the heroic general Pan Chao, who in 73 A.D. occupied the strategically important oasis of Hami, which in 86 A.D. was definitely annexed (Map B). Pan Chao then marched through the Tarim basin and subdued all important oases of the northern as well as the southern chain and finally terminated successfully a mission which led him through Parthia to the Persian Gulf, whence he returned to China in 102 A.D. He was thus able to convince himself personally of the important civilization of the countries of the West and of the opportunities which they could offer to Chinese trade.

From this period on down to the great campaign of Emperor Chien Lung in 1755 A.D., control of Chinese Turkestan was a pivot of Chinese policy. This story of Chinese expansion to the confines of Persia is extraordinary enough in the records of history, but it has recently, through the discovery of the monuments of Chinese Turkestan by the expeditions of Gruenwedel and Von Le Coq, of Sir Aurel Stein and Pelliot, been enlivened and most interestingly illustrated.

The Chinese Turkestan routes remained open as long as the emperors of the Han dynasty maintained a vigorous central government able to keep order in distant provinces. But toward the end of the second century A.D. revolts broke out against the dynasty; China split up into several independent states, and the hold on Central Asia weakened. Trade with the West was carried on during the third century A.D. by the maritime route rather than through Central Asia. The northern Chinese Turkestan route was closed; traffic on the southern Turkestan route through the kingdom of Khotan, however, remained possible during the fourth century. It is during this period that a princess of the Chinese imperial house was married to the King of Khotan and smuggled silkworm eggs into Khotan, which subsequently became an important center of silk production. This fact, related by the Buddhist pilgrim Hsuan Tsang, has recently been dramatically illustrated by a painting discovered by Sir Aurel Stein depicting the story of the princess.²⁴ When ultimately two Nestorian monks brought the first eggs of the silk moth to the Byzantine emperor, Justinian, in 552 A.D., according to the report of Procopius, it was from Khotan and not from China proper that they obtained this valuable discovery. Besides the China silk trade we have thus to count with the silk trade from Khotan, supplying silk to the Western markets.

During the troubles of the third century, the Great Wall did not prove

²⁴ Stein, *op. cit.*, p. 63, fig. 31.

a sufficient defense against the inroads of the Hiong-nu. Great Hunnic invasions of Northern China took place in the early fourth century. But toward the middle of the fourth century the power of the Huns was broken by a group of Manchurian and Tung-hu or Tungus tribes. They, in their turn, flooded the north of China and established there a barbarian state, which, however, soon was assimilated with the old civilization of China and became an ardent defender of Buddhism. The Wei dynasty of the Toba Tatars, however, had no hold on the countries north of China proper. Manchuria and Mongolia were occupied by the Yuen-Yuen or Avars, who pushed the Huns on their migrations toward the West, which ended in their defeat under Attila on the Catalaunian plains of France. The Wei dynasty not only defended China in the north against the invasions of the Yuen-Yuen but again set out for a vigorous policy in Chinese Turkestan. Toward the middle of the fifth century they freed the Tocharian kings of the northern part of Chinese Turkestan from the yoke of the Yuen-Yuen and temporarily reopened communication with the West.

The early sixth century brought the weakening of the Wei dynasty and the rise of a new power which for a short time was destined to keep the Turkestan trade route open. The Turks appeared for the first time in history. They were of the group of Hunnic races who had remained settled in Dzungaria, south of the Altai. They revolted against the Yuen-Yuen, defeated them toward the middle of the sixth century, and became heirs of the great empire of the Yuen-Yuen, which stretched from the Yellow sea to Turkestan. The Yuen-Yuen migrated—like their predecessors the Huns—toward the West. It is believed that they were the Avars who reached the Hungarian plains toward the middle of the sixth century and were for several centuries one of the plagues of Europe, until in 955 they were finally defeated on the Lechfeld by the German emperor Otto I.

The Turks, or Tu-Kiue as they are called in the Chinese chronicles, extended their power rapidly over the steppes of Central Asia, set themselves up as suzerains over the Tocharian states of Chinese Turkestan and in 566 A.D. defeated the Ephthalites in Western Turkestan. The arrival of the Turks in Western Turkestan is of great importance for the history of Europe, for they were destined to stay in these regions up to the present day. From Turkestan they reached out for their conquest of the West,

which did not extend as far as the raids of Huns and Avars, but made a more permanent imprint on the history of Europe.

The arrival of the Turk in Sogdiana and Bactriana meant the proximity of a dangerous enemy to the Sasanian empire, which was forced to relax the pressure it had always exerted on the Byzantine empire. The Turks soon recognized the possibility of fortifying their own position, by getting in contact with the Byzantines. They proposed to the Byzantine emperor Justin II in 568 and 569, an alliance against the Persians and suggested also the opening of a trade route running north of the Caspian sea. Among the reasons proffered was the advantage of importing silk from China and Khotan to Byzantium without touching Sasanian territory. Byzantine chroniclers describe the dismay of the Turkish ambassadors when they were shown silk produced in Byzantine territory; for, as we have noted, the secret of silk production had already been revealed to the Byzantines by two Nestorian monks. An alliance between the Asiatic Turks and the eastern outpost of Christendom never became a reality, for the great Turkish khanate stretching from Mongolia to the Persian border was destined to break up into several states which diminished their power by internal fights, and the Sasanian danger in the West was soon to be replaced by a more formidable adversary—Islam, which, around 640 A.D. wrested from the Byzantines two of their important provinces, Syria and Egypt, while Sasanian Persia became part of the domains of the Caliph.

China as a whole was able to hold out against the danger of Turkish invasions. From 581 on, China was reconsolidated into a powerful state under the short-lived Sui dynasty, which was followed in 617 by the great Tang dynasty, destined for three centuries to revive the power that had been China's under the Hans. In the early seventh century China opened an aggressive policy against the disunited Turks. The eastern Turks were definitely vanquished in 625; even before this date China began to reassert itself in Chinese Turkestan. From 630 on, Manchuria and Mongolia submitted to Chinese supremacy. The Turkish chieftains in Manchuria and Mongolia now had to reckon with the Chinese, and the latter carried on a clever policy by taking advantage of the dissension among the Turks. In 731 a Chinese emperor erected a stele at Kocho Tsaidam in northwestern Mongolia in honor of the Turkish chieftain Kultegin. This stele, one of the oldest documents of the Turkish language, shows clearly how far Chinese power again reached.

With the splitting up of the great Turkish khanate into its eastern and

western branches and later into minor subdivisions, various Turkish tribes, which were destined to play an important rôle in the history of Asia, made their appearance.

Toward the middle of the seventh century, we hear first of the Uighur Turks as being settled in the oases of northeastern Chinese Turkestan. "Uighur" means "subject," "disciplined." These Uighurs must have mixed at an early period with the Tocharian inhabitants of the oases of Turfan, Hami, etc., and soon extended their sway over all Chinese Turkestan. They had to give up their nomad habits in order to subsist in this region unfit for sheep and cattle raising. They adapted themselves admirably to the new living conditions and were the first Turkish tribe to build up a sedentary civilization. The older Sogdian and Tocharian strata of the population were permitted to live their lives peacefully under these new masters of different race. The Uighurs also recognized that living on good terms with the Chinese was the most efficient defense against the inroads of their wild and uncivilized cousins of Dzungaria. Thus for several centuries the Uighurs were faithful allies of the Chinese and helped to keep open the trade routes reopened by the revival of Chinese power. The alliance with the Chinese brought the Uighurs on the side of the Chinese in their fights against the wild Turkish tribes of Mongolia. From 700 to 840, the Uighurs ruled also over the Turks of Mongolia. Their rule over Mongolia with the help of the Chinese is commemorated by the famous inscription of Kara Balgassun, dated 813. In this inscription the Chinese Emperor honors one of the Uighur kings of Mongolia. The inscription is written in Chinese, Uighur and Sogdian, the last showing the importance of the Iranian element still persisting in those regions. This peaceful rule of the Uighurs over Mongolia was terminated in 840, when the wild Kirghiz tribes overwhelmed the Uighurs. Uighur rule was then confined to their old territory of the oases of the eastern part of Chinese Turkestan—Turfan, Hami, Kara-shahr and Kucha.

The Uighurs were also on the side of the Chinese in their fight against two growing powers which threatened Chinese Turkestan from the west and south. Tibet emerged from barbarism during the second half of the seventh century. Mahāyāna Buddhism was introduced, and helped in the formation of a state which united to considerable power the previously scattered strength of barbarian tribes. The Tibetans advanced toward the Pamirs and began to make inroads into the western part of Chinese Turkestan. Yarkand and Kashgar were the main objects of their raids,

which, however, soon threatened the Uighurs in their own territory. The inroads of the Tibetans occurred in 692 and 715. In the early eighth century another enemy, the Turks, established in Western Turkestan, who in the late seventh and early eighth centuries had been converted to Islam and had become subjects of the Caliph, pressed in from the West. In 712 and 713 a Mohammedan army under Ibn Kotaiba invaded Chinese Turkestan. The Chinese were defeated in the battle of Kangli, and through Chinese prisoners the art of making paper became known to the Arabs. From the early eighth century on, the Chinese rule over Kashgar and Yarkand was always insecure.

In 748 the Tibetans were defeated, and China assumed control of the Pamirs. The Chinese government, at the same time established at Kucha, exerted a harsh power over the western Turks as far as Tashkent and Ferghana. But its overbearing demands exasperated the Turks of these regions, who allied themselves with the power of the Caliph.

In 751 the Chinese were ultimately defeated; they lost all the western part of Chinese Turkestan, and their control ended with the Uighur oases of the eastern part. This meant that the caravan route was held by two enemy powers and that connection between China and the Western countries became again precarious. The Uighurs held out valiantly against the Tibetans, whom they defeated in 789 and 791. In 821 a *modus vivendi* was found with the Tibetans, but the control of the western part of Chinese Turkestan was irremediably lost. From now on, the sphere of influence of Islam encroached more and more upon Chinese Turkestan. In time of peace, however, trade was possible between the Chinese sphere of influence, including the Uighur oases, and the countries adhering to Islam, which under the dynasties of the Taharids, Saff-arids (867-903) and Sāmānids (874-999), gained almost complete independence from the Caliphate.

While an often interrupted trade connection was thus established through the Turkestan caravan route, Dzungaria and Ili remained in the hands of wild Turkish tribes, making intercourse impossible. The Ili region was ruled, in the second half of the eighth and in the ninth centuries, by the Turkish tribe of the Karluk. After the defeat of the Chinese in 751 they invaded the region of Kashgar, Yarkand and Khotan. In the early tenth century they embraced Islam, and thus the western part of Chinese Turkestan turned Mohammedan under Turkish rule.

The Sung dynasty of China was never able to reassert Chinese supremacy

over Chinese Turkestan. The reasons are evident. China itself was subject to lasting inroads of northern barbarians. The whole north of China was occupied, from the end of the tenth century on, by the Khitan Tatars, who adopted Chinese civilization as rapidly as had the Wei dynasty. A China divided between a northern Tatar state and the Southern Sung dynasty was not able to extend its power over the lost western kingdom. Toward 1125 the Khitan Tatars were thrown out of Northern China by another wave of conquering barbarians, the Nüchih or Kin Tatars. The Khitan, ejected from China, extended their power toward the west, and soon formed a great empire including the Uighur territory, Dzungaria and Ili. Finally even the shahs of Khiva did homage to them.

All this fluctuation of quickly succeeding states was terminated for a long time by the formation of a great world empire stretching practically from the Yellow sea to the Black sea: the world empire of the Mongols. Jenghiz Khan's career began in 1175, as ruler of a small tribe roaming over the banks of the Onon river, an affluent of the Amur in northeastern Mongolia. In a long struggle, he united under his standards all the tribes of outer Mongolia. In 1209 he subdued the Uighurs; the conquest of the remainder of Chinese Turkestan, Dzungaria and the Ili region followed. His armies swept over Western Turkestan, Northern Persia, the Caucasus, and Southern Russia, and he reduced the Kin Tatars of Northern China. Jenghiz Khan died in 1227, to be succeeded by great conquerors of the same mettle. Kublai Khan conquered in 1280 the Southern Sung empire; the conquest of Persia and the Mesopotamia was finished with the conquest of Bagdad in 1258; almost the whole of European Russia was in the hands of the Mongols by about 1250. Parts of southern Siberia formed a natural bridge between Dzungaria, Mongolia, the Altai region and Russia. Although divided into five great khanates (that of the Golden Horde in Russia, that of the Ilkhans of Persia, that of the khans of Sibir, that of Djagatai—Transoxiana, Ili, Dzungaria and Chinese Turkestan—and that of United Mongolia and China), the cohesion of these different khanates, all subject to the Great Khan residing in Karakorum in Mongolia, was strong enough to warrant security of the trade routes all over Asia. An iron hand had built an extraordinarily powerful state out of a military coalition of all that was roaming and fighting over the steppes of Asia.

History is full of the cruelties of the wild conquering Mongols. But, once installed as ruler, the Mongols interfered relatively little with the

lives of the superior races which were subject to their sway. There was absolute religious tolerance. The Mongols themselves, originally Shamanists, had leanings toward Buddhism and toward Nestorian Christianity. Islam, however, had put up a stiff fight against the conquerors. The Mongols as a matter of fact were never able to overcome the Mameluk sultans of Syria and Egypt. For this reason their attitude toward Islam was less friendly. Islam was crushed in Persia and Mesopotamia, and Nestorian Christianity was the favored religion from the time of the conquest until about 1304, when Oldjeitu Khan (Timur Khan), Ilkhan ruler of Persia, was converted to Islam.

This religious tolerance opened many contacts with Western Christianity. Saint Louis refused to enter into an alliance proposed by the Mongols for the final crushing of the last resort of Islam—Egypt. Embassies were exchanged between Kublai Khan and the Pope. A Roman Catholic bishop resided in Cambaluc (Peiping) until the fall of the Mongol dynasty in 1356.

The roaming tribes of the steppe being held by an iron hand, direct traffic could be opened between China and the West. Islam, by its hold over western Chinese Turkestan, Western Turkestan and Persia, had for centuries formed a barrier to such traffic. With the momentary crushing of Islam, the bridge between East and West was opened wide, and Chinese influence soon made itself felt in the art of Persia, producing a complete revolution of Islamic art. Chinese textiles appeared on the markets of Europe. The new security of the roads now permitted traffic over routes that had formerly never served for caravan traffic. Besides the Chinese Turkestan routes, the more direct and more comfortable Dzungarian routes could be safely used.

It is not a mere accident that John of Pian de Carpino (1245-1247) and William of Rubruck (1253-1255) both traveled by the Dzungarian route. Both entered the territory of the Great Khan in Southern Russia and passed unmolested north of the Caspian and Aral seas directly through the steppe to Dzungaria and from there on to Karakorum. Marco Polo took a rather devious route through Armenia and Iraq, from there by sea to Ormuz on the Persian gulf, through Kirman to Balkh, from Balkh over the Pamirs to Chinese Turkestan, which he crossed on the southern route, from there via Kan-su to Karakorum. His return voyage, made entirely by sea via Malacca, Ceylon and Basra, shows that the sea routes were frequented and practicable at the period.



MOUNT BOGDOUL IN THE NATIONAL REPUBLIC OF MONGOLIA (OUTER MONGOLIA) CONNECTED
WITH THE U. S. R. BY TREATIES OF FRIENDSHIP

Photograph, Soviet Foto Agency, New York

A new era in the history of communication seemed to have dawned, but with Ilkhan Persia again becoming an Islamic state, with the gradual loosening of the cohesion between the different Mongol states and finally with the expulsion of the Mongols from China in 1356, the possibilities of traffic were destroyed. China became again a *terra incognita* to the West.

Timur (Tamerlane) attempted to rebuild the Mongol world empire toward the end of the fourteenth century, but was not able to realize his dream. China was destined to be rediscovered by the Western navigators of the sixteenth century, who only gradually realized that the Sina of their discovery was identical with the Cathay of medieval records. The Central Asiatic routes of traffic sank into oblivion, from which they emerged only after Russia pushed into Siberia. The Trans-Siberian Railway was the first artery of transcontinental traffic to be reopened. It is more or less identical with what we called the Southern Siberian trail. The newly constructed Turk-Sib Railway follows stretches of the Dzungarian route. Ili, Dzungaria and Chinese Turkestan are still nominally Chinese, but already today depend economically on Russia. Outer Mongolia has joined the Soviet republics (Plate IV). It seems probable that the same fate for Ili, Dzungaria and Chinese Turkestan is only a question of time. It is probable that a railroad will push eastward through Ili and Dzungaria along the old migration route toward Mongolia. The long-forgotten provinces of Central Asia will play an important part in the struggle for supremacy between Russia, China and Japan. Britain, seeing the danger for India in a further extension of Russian power in Central Asia, has, according to recent reports, proposed the appointment of a Moslem Indian prince as ruler of Chinese Turkestan, to make an end to the present turmoil. Chinese Turkestan, which has brought in the last decades such extraordinary discoveries in the field of medieval archeology, may again play a rôle in world politics and world commerce. After archeological work will have become less difficult, great discoveries giving more information about the Indo-European past of these faraway regions will perhaps be made.

MINOR ROUTES

I. THE CHINESE-TURKESTAN-INDIA ROUTE (Map B)

AFTER the Chinese had gained control of Chinese Turkestan during the first century B.C. the main step toward the establishment of a regular exchange of merchandise between East and West had been achieved. But this commerce had to take place through intermediaries. The nearest neighbors of the Chinese to the West were the Yue-chi in Bactria and Sogdiana. When the Yue-chi abandoned their seats in the eastern part of Central Asia they pushed before themselves the Sakas, an Iranian race settled in the districts of the Chu and Jaxartes (Syr Daria) rivers. The Sakas overthrew the Græco-Bactrian kings and reduced them to their possessions in the Panjab. Soon, under the push of the Yue-chi, the Sakas had to follow the Græco-Bactrians into India. Subsequent advance of the Yue-chi into the Panjab limited the Sakas to the possession of the lower Indus river and Gujerat. Thus the Yue-chi found themselves possessors of a vast empire, including Sogdiana, Bactriana, Ferghana, Afghanistan and large parts of northwestern India.

The Yue-chi, who, perhaps, at the moment of their irruption into Turkestan were of a fairly high level of civilization, fell heirs to the Hellenistic tradition of the Bactrian kingdom. Like the Bactrian kings, they were pushed into a position of enmity against the Arsakid kings of Parthia, while their relations with the Chinese were almost permanently of the most friendly nature. As a result of their embracing of Buddhism, the Yue-chi kings of the Kushan dynasty were destined to play an important rôle in the history of India. The fourth Kushan king, Kanishka, (70-102 A.D.) became one of the protagonists of Buddhism in India, where he controlled the whole northwestern territory including Gandhara, Kashmir and Oudh. Under his reign the final split between northern and southern Buddhism took place, and he became an ardent defender of the (northern) Mahāyāna Buddhism. From his vast territories, Buddhist missionaries entered Chinese Turkestan and migrated from there toward China proper.

This Indo-European empire, which was at the same time a defender of Hellenistic civilization and of Buddhism, lasted approximately 500 years, until it was finally overthrown in 452 A.D. by the Ephthalites or White Huns. Friendly with the Chinese, the empire tried also to reach beyond the Parthian enemy and to establish relations with the Roman empire; various embassies were dispatched to Rome under the reigns of Augustus, Trajan and Hadrian.

It was natural that this power tried to establish trade with the Roman empire by a trade route in which Parthian territory and Parthian exactions could be avoided. Thus the Yue-chi very naturally routed the caravans for the longest possible distance through their own territories: from Balkh to Herat, from Herat via Kandahar into Afghanistan and from there into the Indus valley, reaching the ports of Minnagara or Barbaricum in the Indus delta, from where the merchandise could be shipped by sea to Egypt (Map C). As we have seen, the mouth of the Indus valley was not under direct rule of the Yue-chi, but the Indo-Parthian or Saka rulers of the Indus delta were first tributary and later subject to the Kushan power.²⁵ Thus merchandise coming from Chinese Turkestan remained in the territory of the Yue-chi until it was loaded on the Roman boats in one of the ports at the mouth of the Indus. This sea-borne trade had incidentally the advantage that the ships coming from Egypt and Arabia were able to bring to India frankincense, for which there was a considerable demand in China. Frankincense was one of the few articles which could be offered in exchange against silk yarn.²⁶ It is difficult to imagine that one and the same power controlled the routes from the marshes of Kashgar down to the mouth of the Indus river.

During the first and second centuries A.D. the China trade moved rather along this route than across Parthian territory. The importation of Eastern merchandise through this channel into the Roman empire must have been considerable. This trade was rather one-sided: the Roman empire had very little merchandise to offer in exchange for Far Eastern and Indian goods. The trade balance had, therefore, to be made up in gold, and a great number of Roman gold coins were poured into India. Kadphises I of the Kushan dynasty knew only bronze money, imitations of the bronze coins of Augustus. Under Kadphises II gold coins were struck, imitating those of the Roman empire.²⁷

²⁵ Schoff, *op. cit.*, pp. 166-167.

²⁶ Schoff, *op. cit.*, p. 270.

²⁷ Schoff, *op. cit.*, p. 187.

The organization of the China trade with the Roman empire through the territory of the Yue-chi appears to be the normal order of things, according to *The Periplus of the Erythræan Sea*, a shippers' and merchants' guide written in the second half of the first century A.D. by a Greek of Alexandria. This book says, "After this region under the very north, the sea outside ending in a land called This, there is a very great inland city called Thinae, from which raw silk and silk yarn and silk cloth are brought on foot through Bactria to Barygaza, and are also exported to Damirica by way of the river Ganges. But the land of This is not easy of access; few men come from there, and seldom."²⁸

While the knowledge of the transcontinental caravan route is rather hazy in the mind of the author of the *Periplus*, two generations later Marinus of Tyre possesses a much wider knowledge of the Central Asiatic trade routes. Maës, on whose notes the account of Marinus is based, "did not perform the whole journey, but repeats what he learned of Turkestan from his 'agents' or trading associates whom he met at the Pamirs."²⁹ The report of Marinus of Tyre, however, indicates an overland route through Parthian territory via Mesopotamia, Hamadan and Merv.

Toward the end of the second century A.D. the power of the Yue-chi in the lower Indus valley declined, and their power in India was practically limited to the extreme northwest, the Kashmir and Gandhara districts. The Bactria-India route became, therefore, less desirable, and seems to have been abandoned in favor of the route through the northern possessions of the Yue-chi, Sogdiana, Margiana (Merv), Bactria and through Persia. But this route also was soon endangered by the growing power of the northern barbarians, and commerce with China had to take to the sea route.

2. THE YUNNAN ROUTE TO INDIA OR BURMA (Map C)

There was an early overland route through the Chinese province of Yunnan leading to India and Burma. This route connected China proper with these southwestern countries, but it formed at the same time a connection between Tonkin and Burma and India.

The civilization of the farther Indian peninsula was Indian, but as early as 214 B.C. the Chinese conquered Tonkin, and Tonkin remained, from that period on, in more or less close dependency on China. The ports of Tonkin were the first by which China was reached by Western

²⁸ Schoff, *op. cit.*, p. 48.

²⁹ Schoff, *op. cit.*, p. 49.

navigators. When in 166 A.D. a Roman "embassy" reached China, the "ambassadors" landed in Tonkin and were then conducted overland to the Chinese Imperial court. Chinese annals declare that this "embassy" was sent by the emperor An-Tun, who must have been the Roman emperor Marcus Aurelius Antoninus (161-180 A.D.), but the "embassy" was probably simply an expedition of Roman merchants who paraded as ambassadors.

The route from Tonkin on the one hand, from China proper through Yunnan to India on the other hand, must have existed as early as the end of the second century B.C., as shown by a keen observation of the great Chinese explorer Ch'ang K'ien. He observed that the Ta Hia, as he calls the inhabitants of Bactria, used staffs made of a variety of bamboo with square shafts. Upon inquiry he was told that this square bamboo came from India. Ch'ang K'ien, knew, however, that such bamboo grows only in the Chinese province of Sze-chuan. It must, therefore, have got overland to India, whence it was sold to Bactria, and from these facts he concluded the existence of an overland route unknown to him.

The Yunnan trade route started in Yung-chang and reached the upper Irrawaddy river in Upper Burma. It connected from there with the middle Brahmaputra and Bengal or led down the Irrawaddy to Pegu at the mouth of the Irrawaddy. It is reported that, toward the end of the third century, Buddhist monks coming from India reached China by this route. During the disorders of China in the fourth and fifth centuries, native dynasties gained independence in the mountainous regions through which this route had to pass (the Nan Chao kingdom), but with the rise of the Tang dynasty Chinese power was again extended and the route reopened. *The Sin Tang Chou* or "New History of the Tang" contains a geographic treatise compiled by Kia Tan between 785 and 805 A.D. This treatise gives a number of itineraries, among others the Yunnan route which is described in detail.³⁰

During the Sung period, the Chinese again lost control over the mountainous regions, and the route was once more closed. After the Mongol period, however, it must again have been in use, for Chinese porcelain was exported to the Near East from the port of Martaban in Pegu (Map C). It is still known today in the Near East under the name

³⁰ Paul Pelliot, "Deux itineraires de Chine en Inde à la fin du VIIIe siècle." *Bulletin de l'École Française d'extrême Orient*, vol. IV, pp. 130-430, see particularly pp. 132, 133, 142, 150, 169, 364 ff. For the story of the square bamboo, see Laufer, *Sino-Iranica*, p. 535; Pelliot, *ibid.*, p. 143.

of Martabani. The Yunnan route is also mentioned in the world chronicle of Rashid ed-Din, which was composed in the early fourteenth century. Though overshadowed by the Chinese Turkestan caravan routes, the Yunnan route may have had more importance than we are inclined to think. Its main competitor was, of course, the sea route to Burma and India.

3. THE TIBETAN ROUTE

The Periplus of the Erythræan Sea mentions vaguely trade relations between China and India through the country of the Besatæ: "Every year on the borders of the land of This, there comes together a tribe of men with short bodies and broad, flat faces, and by nature peaceable; they are called Besatæ, and are almost entirely uncivilized. They come with their wives and children, carrying great packs and plaited baskets of what looks like green grape-leaves. They meet in a place between their own country and the land of This. There they hold a feast for several days, spreading out the baskets under themselves as mats, and then return to their own places in the interior. And then the natives watching them come into that place and gather up their mats; and they pick out from the braids the fibers which they call petri. They lay the leaves closely together in several layers and make them into balls, which they pierce with the fibers from the mats. And there are three sorts; those made of the largest leaves are called the large-ball *malabathrum*; those of the smaller, the medium-ball; and those of the smallest, the small-ball. Thus there exist three sorts of malabathrum, and it is brought into India by those who prepare it."⁸¹

Wilfred Schoff comments on this passage: "These were another Tibeto-Burman tribe, allied to the Cirrhadæ and to the modern Kuki-Chin, Naga and Garo tribes. Ptolemy places them east of the Ganges, and corroborates the *Periplus* as to their personal appearance. . . . Our author locates them 'on the borders of the Land of This,' indicating that Tibet was then subject to China. The location of their annual fair must have been near the modern Gangtok . . . above which the Cho-La or Jelap-La Pass leads to Chumbi on the Tibetan side of the frontier, from which the overland route . . . led across the table-land to Koko Nor, Siningfu and Singanfu." The same route is described by Schoff in more detail on page 272: "This was the route across the Tibetan plateau, starting in the same direction as the Turkestan routes, from Singanfu to Lanchwowfu; branching here, it led to Siningfu, thence to Koko Nor and southwestward, by Lhasa and the

⁸¹ Schoff, *op. cit.*, paragraph 65, p. 48.

Chumbi Vale to Sikkim and the Ganges. The route from Lhasa by the lower Brahmaputra was little used, owing to the savage tribes inhabiting it. There were numerous other passages into India; as, for instance, a frequented route by the Arun river through Nepāl to the Ganges, or by following the upper Brahmaputra to the sacred peak of Kailās and the source of the Sutlej, or continuing through Gartok to the upper Indus. But natural conditions . . . made these routes through Western Tibet almost impracticable for commerce. This was the route which later became the great highway of Buddhist pilgrim-travel between Mongolia and Lhasa.”

Schoff continues on page 279: “Other passes through Nepāl are possible, particularly that by the Arun river, but the route through Sikkim involves the least deviation from the direct line from Koko Nor to the Ganges; while from Gyangtse to the source of the Arun a pass must be scaled higher by 3,000 feet than Jelap-La.” Pseudo-Callisthenes also describes the same tribe, referring to them as the *Bisadæ*. Schoff describes other instances of such fairs and silent markets and explains “petri” as a corruption of the Sanscrit word “patra,” meaning leaf. “Malabathrum” is the word for the leaves of the cinnamon tree.³²

All these notes prove that, at least from the first century A.D. on, there were trade relations between China and India through Tibet. These trade relations were of a very limited nature and did not involve the possibility of any through traffic on a firmly established caravan route, such as existed in the two Chinese Turkestan routes.

³² Schoff, *op. cit.*, pp. 84, 89, 216, 217, 279, 281.

THE SEA ROUTES BETWEEN CHINA AND THE WEST

I. THE MAIN SOURCES OF INFORMATION CONCERNING THE SEA ROUTES

(a) *Geographers and Other Writers of the Græco-Roman World.*

Pliny the elder (died 79 A.D.) gives in his "Natural History" only the vaguest information concerning the sea routes to the Far East.

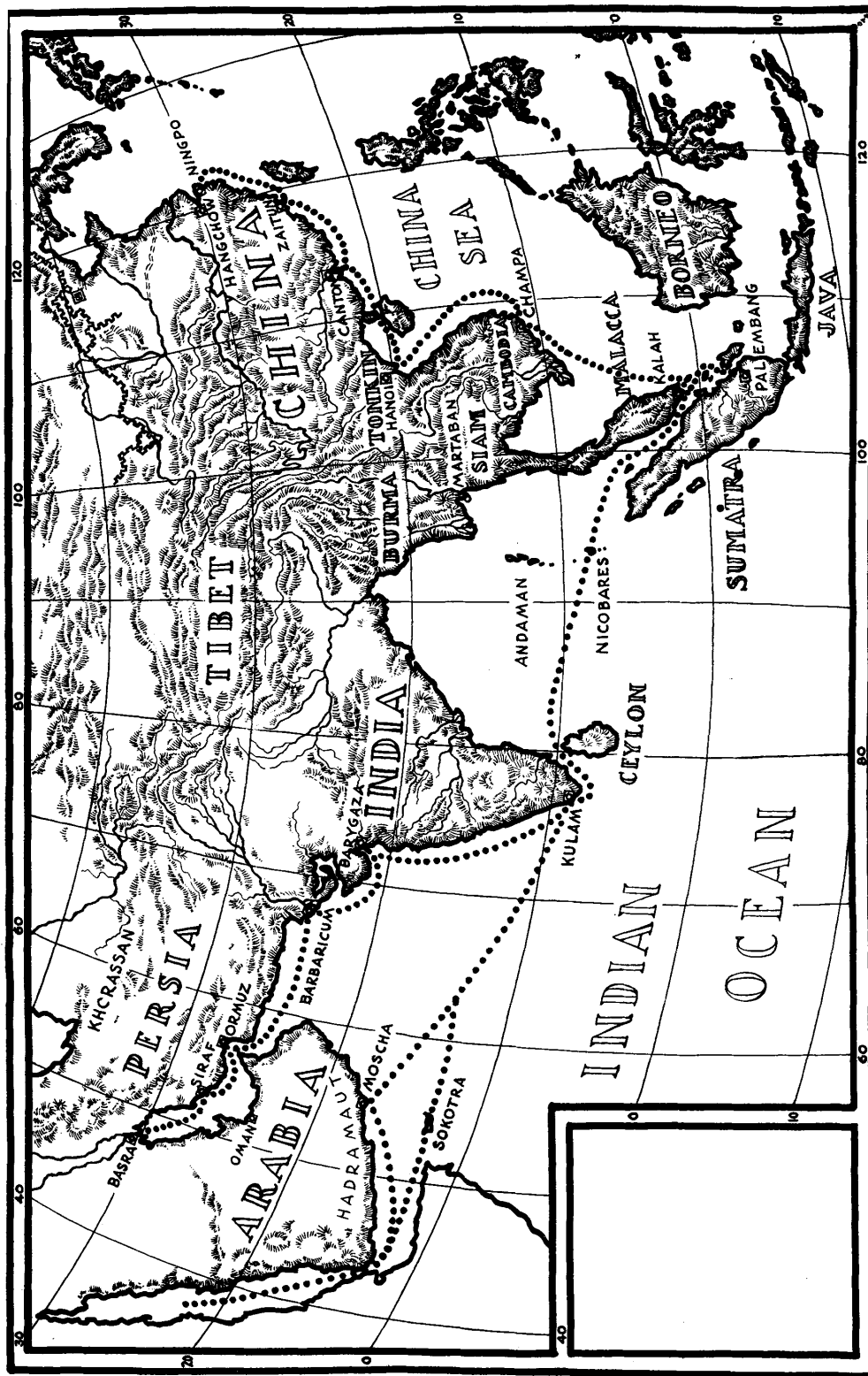
The Roman knowledge of the Indian seas was considerably increased in 47 A.D. by the discovery of the trade winds by Hippalus, a Roman captain. The trade winds were of course known of old to Indian and Arab shippers, but they kept the knowledge secret in order to avoid Roman competition. Hippalus's discovery naturally stimulated Roman shipping in the Indian ocean.

The Periplus of the Erythræan Sea is one of our most valuable sources of information about all the ports surrounding the Indian ocean as far as Ceylon and Zanzibar during the first century. It gives also incidental information, though not very detailed, about the shipping from India to China and the Spice Islands, as well as about the most important Central Asiatic trade routes.

The important treatise by Marinus of Tyre has been lost, but much of the information it contained has been incorporated into the geography of Ptolemy (circa 140 A.D.), which gives fairly detailed accounts of the sea routes to the Far East, as well as of Central Asiatic trade routes. Marinus of Tyre based his account of the sea routes to the Far East on the reports of a sailor, Alexander, who himself sailed to the Straits of Malacca and farther east. His knowledge of the Central Asiatic trade routes, as we have already seen, was based on the account of the Syrian merchant, Maës (Titianus).

The works of Stephanus of Byzantium and Cosmas of Alexandria (surnamed Indicopleustes because of his travels), both of the sixth century A.D., contain knowledge based on earlier writers, which often supplements the information accessible to Ptolemy.

The famous *Tabula Peutingeriana*, now in the Vienna Library, was



SEA ROUTES FROM CHINA TO THE WEST

MAP C

copied in Colmar in 1265 after a lost original of the third century A.D. The date of the copy of this celebrated map is significant, as during the second half of the thirteenth century the interest in the Far East had received a new impetus through the diplomatic and commercial relations of the West with the Mongol empire, which had opened the overland routes to Central Asia and the Mongol capitals, Karakorum in Mongolia and Cambuluc (now Peiping) in Northern China.

(b) *Arab writers*

Arab authors possessed a fair knowledge of the sea routes to the Far East. Of particular interest, however, is the report of two Arab shippers who sailed to China. The trader Suleiman traveled to China in the first half and Ibn Wahab of Basra in the second half of the ninth century. The records of both voyages are found in a treatise of Abu Zeyd Hassan of Siraf entitled *Salsalat al Tawarykh* ("The Chain of Chronicles"). Siraf was an important Persian shipping port on the Persian gulf in the province of Fars.³³

While the book of Abu Zeyd Hassan is a book of authentic information, another Arab text is a summary of the fairy tales and sailor yarns circulated in the Islamic world during the tenth century. A thirteenth century copy of this text of the tenth century has been preserved in the Library of Hagia Sophia in Istanbul, and first became known to the West through a copy made by the orientalist Schefer. The authenticity of the manuscript was first doubted, but was definitely established by a comparison of Schefer's copy with the original in Hagia Sophia. It is entitled *Buzurg ibn Shariyar* and was published in 1883-86.³⁴

This book contains many of the tales which are found in the Arabian Nights, particularly some of the adventures of Sindbad, the Sailor. It contains the story of the magnetic mountain and of the valley full of precious stones. The valley being inaccessible, the sailors throw meat, to which the precious stones stick, into the ravine. Birds of prey pick up the

³³ Friedrich Hirth and W. W. Rockhill, *Chau Ju Kua, His Work on the Chinese and Arab Trade in the Twelfth and Thirteenth Centuries*, St. Petersburg, 1911, pp. 15 ff. Also *Relations des voyages faits par les Arabes et les Persans dans l'Inde et à la Chine, dans le IXe siècle de l'ère chrétienne*, texte Arabe imprimé en 1811 par les soins de feu Langles, publié par M. Reinaud, 2 vols., Paris, Imprimerie Royale, 1845. The first volume gives a long "discours préliminaire" by Reinaud (p. I-CLXXX) and the text of the work by Abu Zeyd Hassan.

³⁴ Van der Lith et Marcel Devic, *Le livre des merveilles de l'Inde*, texte Arabe d'après le manuscrit de M. Schefer, collationé sur le manuscrit de Constantinople. Leide, 1883-1886. A translation into English of Devic's translation was published in New York, 1929: *The Book of the Marvels of India* (Buzurg ibn Shariyār), from the Arabic by Marcel Devic.

meat and carry it out of the ravine. Then, frightened by the sailors, they drop the meat and thus permit the sailors to gather a fortune in sapphires, rubies and emeralds. Other stories find their origin in the day-dreams of sailors deprived of fair companions during their long voyages. As a diversion from geographic matter-of-fact, a few may be mentioned:

A landing party of sailors surprise a group of beautiful women on a lonely island. Two sailors succeed in capturing two of the fair ones. After a prolonged and delightful stay on the lonely island they decide to sail away with their companions, whom they have kept in careful custody. But as soon as they set the women free to take them on their ship, one of them escapes into the water never to be seen again. The other, who has borne a child to her companion, is kept in close custody until the ship is on the high seas. Set free, she at once jumps overboard. The next day she reappears out of the water, smiling to her mate and holding a package, which she leaves floating on the water when she disappears anew beneath the waves. The package contains a shell with a marvelous pearl as a souvenir for mate and child.

A landing party of sailors camps on the shores of a lonely island. Suddenly they find themselves surrounded by an army of thousands of women who overpower the sailors not only by force of numbers but by affection. This affection is of so violent a nature that after a few months' stay on the island all the sailors die of exhaustion. Only one is hidden from the other Amazons, by his captress, who escapes with him to a safer land, where they live happily ever after.

The Book of the Marvels of India contains also the tale of the famous island of Wak-wak on which a tree grows which bears fruit in the shape of human beings who talk to the passer-by. This tree of Wak-wak has often been represented in Persian miniature paintings illustrating the *Wonders of the World*, by Qazwini. De Goeje has shown that even this fantastic tale contains a grain of truth. The tree in question is the so-called "tree of Sodom," the fruits of which open with a strange noise. The mysterious island of Wak-wak is Japan.

(c) *Chinese Sources*

Besides the Chinese annals and historic writers, the reports of the Buddhist pilgrims are of course of particular interest.

The best summary of these pilgrimages is found in Cordier, *Histoire generale de la Chine*, vol. I, pp. 551 ff. Cordier lists the following:

Circa 260 A.D.—*Fa Hou* (Dharmarakta), who traveled all over the

Western countries, acquired the languages of thirty-six kingdoms and brought to China a large collection of Buddhistic and Brahmanic texts which he presented to the emperor. He established himself in the capital Lo Yang and, with the help of numerous disciples, translated one hundred sixty-five works between 265 and 308 A.D.

Circa 316 A.D.—*Shi-tao-'an* traveled in the Western countries. His description of the Western countries was included in the sixty volumes published in 666 with a preface by the Emperor Kao Tsung, but is lost.

399-414 A.D.—*Fa-Hien* traveled to India by the overland route, returned by sea in 414. His account *Fo Kouo Ki* (relations of the Buddhistic Kingdoms) was translated into French by Abel Rémusat in 1836, into English by Beal in 1869, by Legge in 1886.

367-431 A.D.—*Gunavarman*, a descendant of the kings of Kashmir, went to Ceylon, sailed to Java, converted the Indian kings of Java to Buddhism, settled in Nanking and died at the age of 65.

518-522 A.D.—*Sung-Yun* traveled to India overland, returned by sea. Part of Sung-Yun's itinerary in Khotan was published by Chavannes, in the *Bulletin de l'École Française d'extrême Orient*, III, 390.—His itinerary from Kara-shahr and Kucha to Aulie-ata was published by Chavannes in *Documents sur les Turcs Orientaux*, pp. 7-10.

525-605 A.D.—*Jinagupta* traveled from his home in Peshawar to China overland via Lop-nor and Koko-nor without touching Tung-huang.

602-664 A.D.—*Hsuan Tsang* traveled from 629 to 645. Started overland, returned via Kashgar and Khotan, wrote the *Si Yu Ki* (Memoirs on the Countries of the West) in which he dealt with one hundred twenty-eight kingdoms visited. His work was published with a preface of the emperor Kao-Tsung of the Tang dynasty.

634-713 A.D.—*Yi Tsing* traveled from 671 to 695. Traveled to India and returned by sea.

The geographic memoir by Kia Tan, which was mentioned in the section on land routes, was incorporated in a perhaps abridged form into the *Sin Tang Chou*, or "New History of the Tang." It consists of a series of itineraries from China to Corea, to Central Asia and to India and Bagdad, published between 785 and 805.³⁵

³⁵ The itinerary to Khotan was translated by Chavannes in *Bulletin de l'École Française d'Extrême Orient*, III, p. 390. The itinerary from Kara-shahr and Kucha to Aulie-ata was published by Chavannes in "*Documents sur les Turcs Occidentaux*," pp. 7-10. The land route from Yunnan and Tonkin to India and the sea routes were published by Paul Pelliot, "Deux itinéraires de Chine en Inde à la fin du VIII^e siècle" in *Bulletin de l'École Française d'Extrême Orient*, IV, pp. 130-430.

The most important book on the China trade by sea is the *Chu Fan Chi* by Chau Ju Kua. The author was a descendant of the Emperor Tai-Tsung, and was inspector of the maritime trade in the Chinese port of Zaytun (Tsu-an-chow). The translation of this work by Friedrich Hirth contains an excellent introduction on the medieval maritime trade with China.³⁶

(d) *Summaries on the China Trade by Sea*

The best summary of the China trade by land and by sea is found in Heyd's *Histoire du commerce du Levant*. The French translation is preferable to the German text, as it has been revised and completed by the author.

Die Renaissance des Islam, by A. Mez Heidelberg, 1922, contains a chapter on the maritime trade to the East, p. 472, mainly based on Hirth's introduction to *Chau Ju Kua*, which has been intensively used in the present discussion.

The Arab, Persian and Turkish material on navigation in the Far East has recently been compiled and translated by Gabriel Ferrand, *Relations de voyages et textes géographiques arabes, persans et turcs relatifs à l'Extrême Orient du VIIIe au XVIIIe siècle*. 2 vols. Paris, Leroux, 1913.³⁷

ITINERARIES OF THE SEA TRADE (Map C)

There cannot be any doubt that in the early centuries of the Christian era—if not earlier—Chinese merchandise reached the West entirely by sea. This does not signify that Chinese ships reached the West or that Western ships reached China. Through traffic is an achievement only of a period of high technical development of navigation and of international conventions in which the right to ship from one country to any other country is undisputed.

In earlier phases of the history of trade, certain nations controlled shipping in certain regions of the world and maintained their monopoly by force, and international convention went only so far as to allow the

³⁶ Friedrich Hirth and W. W. Rockhill, *Chau Ju Kua, His Work on the Chinese and Arab Trade in the Twelfth and Thirteenth Century*. St. Petersburg, 1911, p. 288. For the same book compare: F. Hirth "Chau Ju Kua, A New Source of Medieval Geography," *Journal Royal Asiatic Society*, 1896, pp. 57-82. F. Hirth, "Chau Ju Kua's Ethnography, Table of Contents and Extracts, concerning Ceylon and India and Some Articles of Trade." *Journal Royal Asiatic Society*, 1896, pp. 477-507.

³⁷ On the divers sources concerning the Arab trade in India and China, see: J. T. Reinaud, "Extrait d'un mémoire géographique, historique et scientifique sur l'Inde, antérieurement au milieu du XIe siècle de L'ère chrétienne, d'après les écrivains arabes, persans et chinois." *Journal Asiatique*, 4me série, vol. 8, pp. 285-315. Also see the same author's *Relations des voyages faits par les Arabes et Persans dans l'Inde et à la Chine*.

rulers of one sector to bring the merchandise to the limit of the following sector, where it was transferred to the ships of those who controlled the following sector.

The consequence of this monopolistic arrangement was that the Romans might receive merchandise from very distant points of the world, but that nevertheless their knowledge of the countries of origin of such merchandise might be very vague. It was even to the interest of those who were able to exert a monopoly on certain stretches of the sea to prevent the Romans from acquiring such knowledge and even wilfully to disseminate wrong and misleading information in order to keep out unwanted competition.

The fact that merchandise was often sent to countries which the people who produced the merchandise never saw, must be borne in mind. This fact is a characteristic not only of the past; it can be observed even in our present day. I recall the experiences of a German government official in New Guinea who penetrated into far-away districts of the interior in which a white man had never been seen before: in those remote districts the German-made glass bead was an every-day article: the merchandise had preceded the maker in the venture of penetration into the wilds.

In the study of the sea routes between China and the West, one has, therefore, to consider the places of trans-shipment, the places where one shipping monopoly handed the merchandise over to those who controlled the adjoining sector.

In the trade between the Roman West and the Far East we can distinguish the following sectors:

1. The Red sea from the Gulf of Suez to Aden (known as Eudaimon in Roman times).
2. The Persian gulf from Oman to Basra.
3. The Indian ocean, from Oman, Aden, and the west coasts of India to Ceylon.
4. From Ceylon to Malacca, Sumatra or Java.
5. From Malacca, etc., to China.

This sea-borne trade was carried by the following competitors:

1. The Romans of Egypt.
2. The Arabs of the Yemen and Hadramut.
3. The Persians.
4. The Indians of Gujerat and Southern India.
5. The Chinese.

(1) *Shipping in the Red Sea*

Eastern merchandise arriving by sea at the mouth of the Red sea might have been carried to Lower Egypt by two channels: it might have landed at Eudaimon (Aden), then transported by caravan along the Arabian coast to the Gulf of Akaba, and there sold to Egyptian purchasers. This method of transport kept the merchandise in Arabian hands and made the merchandise much costlier. The second way would have been much cheaper for the Egyptians: The Eastern merchandise was taken over by Egyptian shippers either at Aden or at the island of Sokotra (Dioscorida) or in one of the ports on the African coast opposite Aden, and was transported by Egyptian ships up the Red sea. The opposition between the interests of Egypt and the seafaring Arabs is evident. The policy of Egypt was to secure a foothold at the entrance of the Red sea, in order to deal with Indian shippers rather than with Arabs and to live in good understanding, if not alliance, with the power controlling the African coast opposite Aden.

Under the Ptolemies, Egypt pursued a systematic policy of extending its power along the Red sea. There were three main points where merchandise could be landed and transported to Egypt. The northernmost point corresponds to Suez. The Egyptians never dreamed of building a canal from the Gulf of Suez to the Mediterranean. But toward the end of the seventh century B.C. a canal had connected the Red sea with the easternmost branch of the Nile. This canal had been repaired under the Persian rule of Darius and Xerxes and was reconditioned by the Ptolemies. Trajan improved the canal considerably, and until the sixth century A.D. it seems to have been in working order. Under Trajan it was apparently deep enough to receive ships of considerable draught, but generally we may assume that the merchandise was unloaded in the Red sea port, transferred to rivercraft and carried by canal and the Nile to where it was needed in Egypt or where it could again be trans-shipped for the Mediterranean trade.

The second place of trans-shipment corresponds to the site of the ancient capital, Thebes, in the vicinity of which the younger cities of Koptos and Kainepolis were situated. The distance from these cities to the Red sea is not considerable. From a Red sea port such as Myos Hormos, Philotera or Leukos Limen, the wares could be shipped by caravan to Koptos or Kainepolis and could then be shipped on Nile barges toward the north.

The third place of trans-shipment has in recent days gained considerable importance on account of the development of cotton production in the Sudan. The modern ports of Port Sudan and the now almost abandoned Suakin correspond to the ancient Soterias Limen from where the merchandise was transported on a line corresponding to the modern railroad line from Port Sudan to Khartum, and was loaded on river-boats at a point slightly south of the ancient Meroë. This mode of transport had the inconvenience that the merchandise had to be carried around the cataracts of the Nile.

Very soon the Egyptians felt the need of occupying ports farther south. The port of Adulis, corresponding to the modern Massawa, was of particular importance, as it was, in addition to a port of trans-shipment, the natural outlet for the Kingdom of the Abyssinians. The capital of Abyssinia, Axum, was located on the high plateau southwest of Adulis. A second port, Patara, opposite Ocelis on the Arabian coast, was enlarged and renamed Arsinoë for a time. This city corresponds to the modern Obok in French Somaliland.

Being thus firmly established on the west coast of the Red sea, the Ptolemies, and their successors, the Romans, could claim a fair share not only in the Red sea trade but also in that of the Indian ocean. How far the ambitions of the Ptolemies went is best shown by their sending an emissary by the name of Dionysos to the Indian kings, Bindusara and Asoka, in order to establish trade relations. We hear that the Indian kings—great defenders of Buddhism—tried to win the Egyptian king to their religion.

The Romans set out systematically to gain control over their Arab competitors of the Yemen. The ports of the Yemen were Muza (probably Mocha), Ocelis (of particular importance), and Eudaimon (Aden). The center of the caravan trade in the north was Petra.

As soon as they gained control of Egypt they undertook an expedition led by Gaius Aelius Gallus against Arabia Felix. This failed, but Trajan succeeded in capturing Petra. What the armies on land could not achieve was at least partly achieved by the expansion on the sea: Roman trade in the Red sea made such considerable progress that the Arab communities through which the caravan trade moved northward underwent a great crisis. The only help they could expect was from the Persians, the arch-enemies of the Romans with whom they entertained friendly relations.

The Roman effort was, on the other hand, greatly helped by the alliance with the growing power of the Abyssinians or Axumites. The word

“Abyssinians” is the same as the Arab “Habashat,” designating an Arab tribe originally settled in the Arabian frankincense country, in Mahra, east of Hadramut. They later settled on the African Somali coast where frankincense also was produced. Toward the beginning of the Christian era they moved inland to the high plateau of Tigre and founded the Abyssinian state, with Axum as capital. Controlling as they did the African coast opposite Arabia Felix, their interests were opposed to those of the Arabs of Yemen. The Axumites, therefore, allied their policy with that of the Roman empire and the Indian merchants, and opposed the Persian-Yemenite bloc which tried to raise a barrier between the Roman empire and the Indian trade. This political constellation orientated the policy of the Red sea for about six hundred years, until the whole balance of power was overthrown by the incoming of Islam.

The understanding between the Axumites and the Romans in Egypt developed gradually during the first and second centuries A.D. The Axumites then leaned toward Buddhism, and the traces of Indian influence found in Coptic art traveled probably to Egypt via Axum. The Axumites controlled the trade along the African coast of the Red sea and permitted Indian shippers to trade along the Red sea, while the Arabs of Yemen tried to keep them out of the Red sea and did not allow them farther than the port of Ocelis.

In 313 A.D. the Roman empire recognized Christianity. In 330, the Axumites accepted Christianity. This strengthened the ties between Rome and the Axumites.

The conflict of interest between the Yemenites backed by the Persians, and the Axumites backed by imperial Rome, had to be solved one way or the other. All Roman attempts to conquer Arabia Felix by military expeditions along the Arabian coast of the Red sea had failed. Early in the sixth century A.D., however, the Axumites succeeded in conquering the Yemen. The problem seemed to have been solved in favor of Rome.

The Sasanian Persians, however, were not satisfied with this defeat. Their position in the Indian ocean was strong. We do not know much about the Persian merchant-fleet in the Indian ocean, as it traded mainly between India and Persian and Mesopotamian ports, about which Western writers have naturally little information. On account of this maritime strength they were not willing to give up control of the Yemen, and in 526 A.D. revolts, supported by the Persians, broke out in the Yemen. The Persians tried first to establish a native dynasty in Yemen, but saw it finally more

to their advantage to transform Yemen into a Persian province with Persian governors. The old balance of power was reestablished. The Yemen remained under Persian control until 629 A.D., while the African coast was under the rule of the Christian Axumites, allied with Rome.

(2) *Shipping in the Indian Ocean*

Hippalus and the Trade Winds. Shipping in the Indian ocean is dominated by the monsoons or trade winds. It is customary to leave the coast of Arabia in August. In swift voyage, with the trade winds in the rear, the coasts of India are reached without much difficulty. Ample time is left to transact business in India, for only in December is the wind, which is now blowing in the opposite direction, favorable for the return voyage. The custom in the Middle Ages was to steer for Madagascar or even as far as Sofala in Portuguese Mozambique, to ship and trade along the African east coast and to reach Aden after April. From April to the following August was time enough to wind up the business, refit the ships and prepare for the next voyage.³⁸

The discovery of the trade winds by Hippalus put the Romans on an equal footing with the Eastern nations, so far as sailing technique was concerned. From the time of Hippalus on, Roman shippers ventured into the Indian ocean and traded with India, while, on the other hand, Indian ships were welcome in the Roman and Axumite settlements of the Red sea, as such direct trade eliminated the Arabian or Persian middleman.

The Main Ports of the Indian Ocean. At the entrance of the Red sea, Aden is today the most important port. It corresponds to the Eudaimon of Roman times. More important than Eudaimon was, slightly northward, the port of Ocelis. Indian ships were not permitted to proceed farther; they had to unload in Ocelis, whence Arab ships or caravans carried the merchandise northward. The Arab trade monopoly was broken by Egypto-Roman competition. Arsinoë was the Roman port opposite Ocelis and Eudaimon. The island of Sokotra (Dioscorida) was an important trading center which had the same function as the Arab and Egyptian ports at the entrance of the Red sea. Here also merchandise from Indian ships was transferred to Roman or Arab ships for transport in the Red sea. The Roman hold on Dioscorida was so important that Cosmas Indicopleustes reports in the sixth century that Greek was spoken on this island.

³⁸ Schoff, *op. cit.*, p. 88.

Farther west on the Arabian coast were the ports of Hadramut, important for the export business of incense, found in the hinterland and coveted throughout the Orient and Mediterranean. The main harbor was Moscha (now Khor Rori). The seafarers from Hadramut sailed the Seven Seas at an early period and were not only engaged in trade with India but soon reached out toward the Malay islands, where the Hadramut Arabs still today play an important rôle.

The entrance into the Persian gulf is commanded by the Persian port of Ormuz (Hormuz), opposite Oman. On account of a difficult passage into the Persian gulf, many of the great Indiamen had to unload their cargoes there, as they could not proceed toward Basra, the port at the mouth of Mesopotamia, where merchandise could be shipped upstream to Bagdad. Instead of the modern Persian ports of Bushire and Bender Abbas, the port of Siraf was the most important gulf port in the Middle Ages.

Among Indian ports on the mouth of the Indus, Barbaricum had the function of modern Karachi. Gujerat developed trade with the Malay islands at an early period. The Indus valley was, from the end of the first century A.D. on, controlled by the Yue-chi, the Indo-European race whose migrations from Central Asia we have studied elsewhere. The Yue-chi had, of course, no experience in navigation and overseas trade, in which the Dravidian races excelled. It is, therefore, not surprising to see the overseas trade concentrate rather in the Dravidian ports of Gujerat and the Malabar coast. Nevertheless the Indo-Scythians (particularly the Yue-chi) recognized the advantage of trading with the Roman Empire directly, and of shipping Indian merchandise or merchandise from their northern possessions (Bactra, Turkestan) to the Romans without touching the territory of their common enemies, the Parthians. We observe, therefore, an exchange of embassies between the Yue-chi and the Romans. The Roman *aureus* was a current gold coin in the lands of the Yue-chi and they patterned their own gold currency after Roman models.³⁹

The Dravidian population of Gujerat was Buddhist. When, in the early seventh century, Hinduism gradually crowded out Buddhism, it infused new energy into these expert sailors of old. Navigation and commerce with the Malay islands took, in this period, the form of wholesale emigration of Gujerati Buddhists to the Malay islands, to Java particularly, and led to the establishment of a Buddhist Indian colonial empire

³⁹ Schoff, *op. cit.*, p. 187.

in Java.⁴⁰ The Dravidians of Gujerat and farther south along the Malabar coast were expert ship-builders and developed sailing vessels of considerable size, such as we find reproduced on Indian coins and on the celebrated relief of Boro-budur (Plate V), where a Gujerati ship under full sail is represented.

While modern shipping, turning the south point of India, meets in the port of Colombo, Ceylon, during the Middle Ages continental ports were as important as that on the island. Medieval trade seems to have centered rather around the port of Kulam on the southern end of the Malabar coast. Here Far Eastern merchandise, which arrived on ships of particularly large size, was trans-shipped on the relatively smaller ships which plied the Indian ocean. The ports of Goa, Calicut and Cochin, so prominent during the period of Portuguese supremacy in the Indian ocean, seem to have been less important than Kulam during the Middle Ages.

Shipping Competition in the Indian Ocean. We have previously studied the rivalry between Roman and Arab shipping in the Red sea. As soon as the Romans had gained a firm foothold in the ports at the entrance of the Red sea and had learned the secret of the trade winds, this rivalry extended also over the Indian ocean. The competition involved, however, only the trade in the Red sea leading toward Alexandria. The transportation of Eastern merchandise, silks and spices, as well as Indian natural products and textiles to the Mediterranean, was in competition with the Persian trade, which tried to bring Eastern merchandise westward by land through Mesopotamia. If the Persians succeeded in shutting the Romans out from the Indian ocean, they were able to harvest immense profits from their resulting monopoly. It was to the interest of the Indians to prevent such a monopoly. The Persians were able to create a monopoly only by control of the entrance to the Red sea, which was possible only through a friendly understanding with the Arabs: thus we find Persians and Arabs allied against Indians, Romans and Axumites. To get a clear understanding of the situation we ought to know more about Persian shipping in the Indian ocean.

Persian Shipping in the Indian Ocean. We know very little about the extent of Persian shipping in the Indian ocean. It may have been more important than we are inclined to think. Historic information is not available, for lack of sources. Gabriel Ferrand has, however, pointed out that a certain number of Arab terms of navigation and geography are bor-

⁴⁰ Schoff, *op. cit.*, pp. 174, 245, 261. Ship-building, see pp. 243 ff.

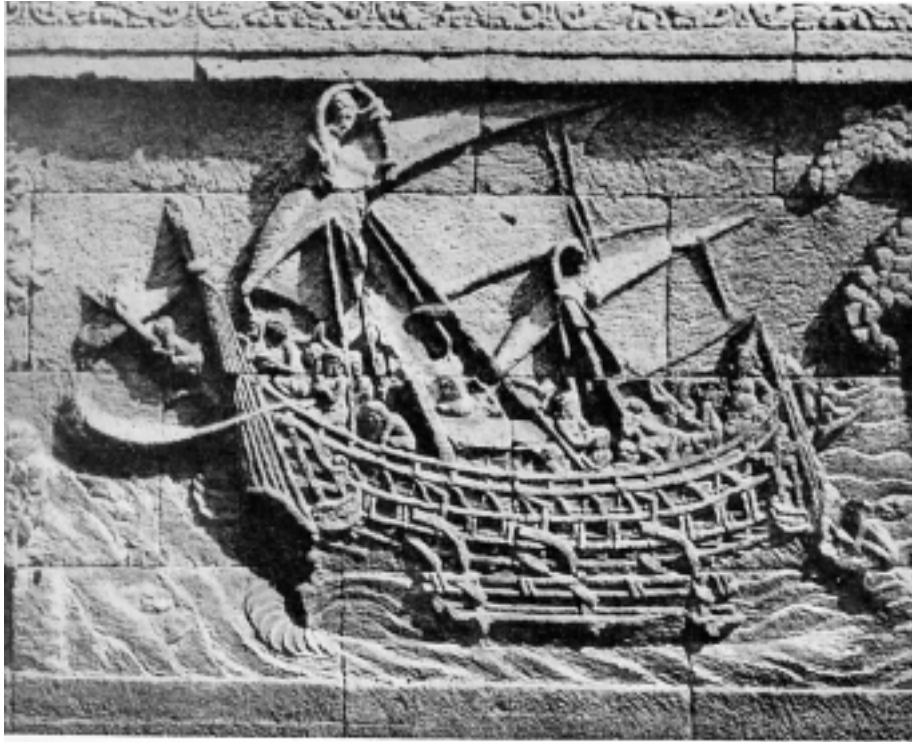


PLATE V

SECTION OF THE RELIEF SCULPTURE AT BORO-BUDUR SHOWING A GUJERATI SHIP
UNDER FULL SAIL

rowed from the Persian language, and he is, therefore, inclined to think that Persian shipping perhaps antedated Arab shipping and was of considerable importance.⁴¹ He states that the Arabs are known to the Chinese as *Ta-che*, which is the Chinese transcription of the Persian word *Tazi* or *Tajik*, a term by which the Persians designated the Arabs. The Chinese dynastic histories designate all the products of Indo-China, Ceylon, India and Arabia as coming from the *Po-se*, which is the Chinese term for Persia. This seems to indicate that the Persians were perhaps engaged in the China trade before the Arabs and that the latter learned from the Persians. The extension of Persian power over vast stretches of the Arabian coast, including ultimately the control of the Yemen, which for a century was a Persian satrapy, seems also to indicate that Persian shipping must have been of considerable importance. In 691 the Chinese pilgrim Yi-Tsing embarked on a Persian ship for Palembang in Sumatra, and Vajrabodhi left Ceylon in 717 on a Persian ship for China. The designation "Persian" is used, although Persia and Mesopotamia were then already part of the Caliphate.

Roman and Persian Rivalry in Ceylon in the Sixth Century A.D. Nothing illustrates better the rivalries in the trade of the Indian ocean than a story related by Cosmas Indicopleustes:⁴²

"And there came thither on matters of trade one from our own parts, named Sopater, who died about thirty-five years ago. And his business took him to the island of Taprobane [Ceylon], where it happened that a vessel arrived at the same time from Persia, and there landed together those from Adulis [corresponding to modern Massaua in Italian Erythræa, a colony of Ptolemy Philadelphus, the natural access to Abyssinia] among whom was Sopater, and those from Persia among whom was an ambassador of the Persians. And so, as the custom was, the captains and tax-collectors receiving them brought them before the king. And being admitted into the presence of the king, after they had offered the proper homage, he bade them be seated. And then he asked them: 'How goes it with your countries, and how with your trade and commerce?' 'Excellently well,' they said. Replying, the king asked, 'Who, of your kings, is the greatest and most powerful?' Without delay the Persian answered: 'Ours is the most powerful, the greatest and richest; he is the king of

⁴¹ Gabriel Ferrand, *Relations de voyages et textes géographiques Arabes, persans et turcs, relatifs à l'Extrême Orient du VIIIe au XVIIIe siècle*, Paris, Leroux, 1913, see pp. 1 ff.

⁴² Schoff, *op. cit.*, p. 251.

kings; and he has power to do whatever he wills.' But Sopater was silent. Then said the king, 'You, Roman, have you nothing to say?' And Sopater replied, 'What have I to say, when this man says such things? If you wish to learn the truth, you have both kings here; examine them, and you will see which one is the most magnificent and the most powerful.' But the king was amazed at this speech and said, 'How have I both kings here?' And he answered, 'You have the money of both; you have the gold coin of the one king, and the drachma of the other, that is, the milliarense; compare the images of both and you will see the truth.' And he, approving and assenting, bade that both be produced. Now the [Roman] gold coin was fine, bright, and well shaped; for thus are the best exported thither; and the milliarense was of silver and I need hardly say, not to be compared with the gold coin. The king looked at both obverse and reverse, and then at the other; and held forth the gold coin with admiration, saying, 'Truly the Romans are magnificent and powerful and wise.' And he commanded that Sopater should be treated with honor; that he should be seated upon an elephant, and led around the whole city with drums, and acclaimed. This Sopater told me, and those also from Adulis, who voyaged with him to that island. And when these things happened, so they say, the Persian was greatly ashamed."

The Rise of Islam. Supremacy of Arab Shipping in the Indian Ocean.

The eternal struggle between Persia and Rome had weakened both adversaries and made the stage ready for the arrival of a new power. But before this catastrophe, Persia struck several decisive blows against the Byzantines, the eastern successors of the Romans. The fight had been waged mainly on the Mesopotamian borderland between Byzantium and Persia and within the Armenian buffer-state. An important blow had been the incorporation of the Yemen into the Sasanian empire, which we have discussed before, but in 614 Chosroes II struck a terrific blow against the Byzantines by his campaign against Syria and Egypt: Damascus fell in 614, Jerusalem in 615, Egypt in 616. The conquest of Egypt was made easy, as the native Copts greeted the Persians rather as liberators from the Byzantine yoke, than as conquerors. Persian armies ravaged Asia Minor and appeared in Chalcedon on the Bosphorous opposite the Byzantine capital. Byzantium seemed to be lost and was saved only through the miraculous campaign of Heraclius, which ended with the

utter defeat of the Persians, followed, in 628 A.D., by a peace in which Syria and Egypt were restored to the Byzantines.

But at the time of the conclusion of this war a new power was already in formation—the power of Islam, which in 637 invaded Syria and conquered Antioch and Jerusalem. In 640, Egypt was in the hands of Islam, and Yazdegerd III, the last Sasanian king, was utterly defeated in 641. In 651, the Arabs controlled all of Persia and had advanced as far as Merv on the confines of Western Turkestan.

Thus the Byzantines had lost two of their most valuable provinces while all of Persia was incorporated into the Caliphate. With this stroke, the trade in the Indian ocean fell entirely and without competition into the hands of the Arabs. They controlled undisputedly the commerce of the Red sea as well as of the Persian gulf.

In 750 the dynasty of the Omayyads fell. The Abbasids, who had come to power, transferred the capital of the Caliphate to Bagdad. Until the middle of the thirteenth century, Mesopotamia remained the seat of the central government, and this involved the shifting of the main trade route from the Red sea to the Persian gulf, with Basra as port of Bagdad.

The rule of the Abbasids marks the height of Arab civilization. Bagdad became the new center of trade and Arab shipping extended far beyond the Indian ocean toward the east.

This supremacy of the Arabs in the Indian ocean was broken only in the fifteenth century by the arrival of the Portuguese in the Indian ocean after the circumnavigation of the Cape of Good Hope in 1492.

The unbroken shipping and trading monopoly of the Arabs brought untold wealth to Mesopotamia as well as to Egypt. The monopoly for which the Parthians and Sasanians had fought in vain was now established for long centuries.

(3) *From Ceylon and Kulam to Malacca and the Spice Islands.*

The Main Ports. The westernmost ports of the routes between India and the Malay peninsula are Kulam and Ceylon. Coastwise navigation touched the ports of the Indian east coast as far as the mouth of the Ganges. Among ports of Further India, the port of Martaban in Pegu deserves particular mention, as it was the outlet of an overland route from China through **Yunnan**.

The main route of trade, however, followed the main purpose of trade:

the acquisition of the valuable spices of the Malay islands. The navigators passed between Ceylon and the southernmost part of India and sailed, with the help of the trade winds, to the Nicobar islands, situated midway between Ceylon and the straits of Malacca. The medieval port of the Malay peninsula, corresponding to the modern Singapore, was Kalah (Arab: "fortress"). This was, however, not the only trading center and trans-shipping place. Several ports in Java and particularly Sumatra were of equal importance. Palembang, on the southeastern point of Sumatra rivaled Kalah in importance, and besides the ports of the north coast of Java should be mentioned. Local shipping gathered the spices collected on the islands in one of these centers, from where they were trans-shipped to India or China.

Competing Navigation between India and Malacca. As we have seen elsewhere, the Romans had hardly any share in the navigation toward the Spice islands. Arabs, Persians and Indians shared in this trade. In the early centuries of the Christian era, the Indians seem to have held the lion's share, while in the later Middle Ages Arab power gained control gradually. This is shown clearly by the Indian colonial empire built up in the Spice islands.

The first Indian immigration into the islands must have taken place shortly after the beginning of the Christian era.⁴³ In the fourth and fifth centuries A.D., Indian states were firmly established. The immigrants were adherents of Hinduism. Shivaitic monuments such as the temple of Samarang in Java go back to this period. In the year 423, Java was converted to Buddhism by the monk Gunavarman, who came from Gandhara. In the early seventh century, a new wave of Buddhists immigrated from Gujerat and Kucha, where Buddhism was losing ground in its fight with Hinduism. The Shai Indra dynasty, originally coming from Java, extended its power into southern Sumatra, establishing its capital near Palembang, and from the seventh to the ninth centuries was an important power, the influence of which extended even over parts of the continent. The temples of Boro-budur from the late eighth century still bear witness of this flourishing Buddhistic culture in Java.

In the late thirteenth or early fourteenth century, Islam began to spread over the islands; in the early fifteenth century Malacca was entirely gained for Islam, and Islam crept farther and farther into the islands. This

⁴³ W. F. Stutterheim, *Kulturgeschichte von Java im Bild*. Java Institut, Weltevreden, 1926. See also Sir Stamford Raffles, *History of Java*.

change shows clearly that Indian supremacy had gradually yielded to that of Islam, which in its turn succumbed in the sixteenth century to the colonial powers of the West: Portuguese, Dutch and British.

It is remarkable that the Chinese play no rôle in this expansion of shipping and subsequent political control. They entered the field of navigation only at a relatively late period. Nevertheless, the sea route from India to China was popular with the Chinese from an early period. In the early fourth century, the famous Chinese pilgrim Fa-hien returned from India to China, from Ceylon via Java.

The Ships in the Far Eastern Trade. Chinese sources agree in the statement that the ships which plied between India and China were of larger size than those plying in the Indian ocean. When Fa-Hien embarked in 414 from Java to Canton he stated that his ship was very large and had a crew of two hundred men, also that the people on board were Po-lo-mon, a name by which the Indians of the west coast were designated.⁴⁴ Another Chinese testimony of the eighth century states that the ships in the Far Eastern trade were very large and high, so that ladders several tens of feet long had to be used to climb on deck.

These descriptions tally very well with the descriptions given by Marco Polo in the thirteenth century:⁴⁵ "The larger of their vessels have some thirteen compartments or severances in the interior, made with planking strongly framed, in case mayhap the ship should spring a leak. . . . Each of their great ships requires at least two hundred mariners, some of them, three hundred. They are indeed of great size, for one ship shall carry 5000 or 6000 baskets of pepper; and they used formerly to be larger than they are now."

While in the case of Fa-Hien we are sure that he traveled on an Indian vessel, we hear that the Buddhist pilgrims, Yi Tsing in 671 and Vajrabodhi in 717, traveled in "Persian" ships, which at that period must have meant Arab ships.

(4) *From Malacca to China*

The Main Ports. From Malacca, Sumatra or Java the ships turned northward and crossed the gulf of Siam, reaching the coast of Cambodia (Indo-China). The port of Champa was touched before reaching Hanoi in Tonkin. From Hanoi (called Cattigara by Roman geographers), the

⁴⁴ Hirth and Rockhill, *op. cit.*, pp. 7, 9.

⁴⁵ Schoff, *op. cit.*, p. 248.

route was through the straits of Hainan to Kwang-tung (Canton). The next important port is Tsuan-chow, known to the Arabs as Zaytun, corresponding to modern Chinchew, on the mainland opposite Formosa. The next northern port is Ming-chow, corresponding to modern Ning-po, followed to the north by Hang-chow, the Kinsai of Marco Polo.

Schoff states that Chinese annals relate voyages to Malacca prior to the Christian era, probably as early as the twelfth century B.C., and claims also sea trade in the gulf of Tonkin at a very early date.⁴⁶ Unfortunately he does not quote his sources, for according to general opinion Chinese navigation cannot be assumed for such an early date.

Tonkin was conquered by the Chinese under the Han dynasty (second century B.C.). The commerce with Tonkin seems to have taken place mainly by land. It is characteristic that the earliest Western navigators reaching China stopped at Hanoi, proceeded then by land toward China. This route, using the sea only as far as Hanoi, is reported in Chinese annals for the so-called Roman embassy of An-Tun in 166 A.D. and also for the other Roman expedition which reached China in 226 A.D.⁴⁷ Hirth assumes that regular sea trade between Hanoi and China proper was not established before the second century A.D. Every record seems to confirm that the development of Chinese navigation took place at a relatively late date and that the overseas commerce of China was carried on by Indians and Arabs.

The Chinese as Navigators. While Chinese records relate at an early period the arrival of foreign navigators on the shores of the Celestial Empire, we hear nothing of Chinese shipping. Until the fifth century A.D., the Chinese knowledge of India seems to have been rather vague. In the case of the Chinese pilgrim Yi Tsing it is expressly stated that in 671 he traveled on a Persian ship. Only in the seventh century, Chinese initiative seems to have awakened: We hear that from 607-610 they undertook an expedition to Siam by sea. The explorers Chang Tsun and Wang Kun left Canton in November, 607. Their next port of call was Tonkin which was reached with the aid of the trade winds. The itineraries compiled by Kia Tan between 785 and 805 A.D. give a good deal of information concerning the sea route from China to the southern point of India, where Kulam was the great port of call. They become exceedingly hazy

⁴⁶ Schoff, *op. cit.*, p. 246.

⁴⁷ Hirth and Rockhill, *op. cit.*, pp. 5, 6.

so far as the Indian ocean is concerned, which seems to prove that Chinese competition was kept out of the Indian ocean.

Masudi quotes, in the early tenth century, the arrival of Chinese merchantmen in the Persian gulf. This was certainly not a regular occurrence; Chinese wares, such as procelains, discovered in Samarra, the residence of the Caliphs from 838 to 883, were more probably imported by Arab than by Chinese ships.

The invention of the compass is often quoted as a proof of the experience of the Chinese on the high seas. It is beyond doubt that the virtues of the magnetic needle were first discovered by the Chinese, but the use of the compass seems to have been limited to geomantic purposes. The first use of the magnetic needle in navigation is witnessed for the year 1122 A.D., and it is very possible that Arab navigators used it first for this purpose.⁴⁸

Arab and Other Shipping to China. The China trade during the Middle Ages seems to have been primarily in Arab hands. Friedrich Hirth has gathered Chinese records concerning this trade.⁴⁹ He does not give any records mentioning Indian shippers. It seems, therefore, probable that the Indian navigators shared in the China trade only at an early period. In the fifth century, Fa-hien reached China on an Indian ship, but, later, Indian ships are no longer mentioned, while we hear of flourishing Mohammedan colonies in the Chinese ports. Indian shipping seems to have confined itself to the trade with Malacca and the Spice islands, while the Arabs and Chinese shared the navigation with Malacca.

The first Arab settlements in China are said to have existed about 300 A.D.⁵⁰ In the seventh century, the shipping between China and the Malay archipelago seems to have become quite lively, for records of this period show the acquaintance of the Chinese with these regions. In the ninth century, the Chinese records are fairly well acquainted with the routes to India (through the port of Kulam), but their knowledge of the Indian ocean is very vague. It is natural that Persian and Arab competitors had no desire to see the Chinese enter this field of navigation.

In the seventh century Islam made its appearance in Canton; by 758 the Arabs were so strong in Canton that they dared loot the city and take away considerable booty. The reports of the trader Suleiman (first

⁴⁸ Hirth and Rockhill, *op. cit.*, p. 28.

⁴⁹ Hirth and Rockhill, *op. cit.*, pp. 1-35.

⁵⁰ Hirth and Rockhill, *op. cit.*, p. 3.

half of the ninth century) and of Ibn Wahḥ (second half of the same century) give a vivid picture of the Arab trade in China at this period. Some of this trade went to Yemen, but the Persian gulf was of course the main terminal of the West. The eastbound ships followed first the Arabian coast as far as Muscat, crossed the Indian ocean to Kulam, stopped at the Nicobar islands, touched Kalah (the site of modern Singapore), and ended the voyage in Canton.

In the ninth century, part of the overseas trade was diverted to Tsuan-chow (now Chinchew). Tsuan-chow soon developed a considerable Arab colony and became known in the Near East under the name of Zaytun. Zaytun was also important on account of its trade with Japan and Corea and soon was more important than Canton. The troubles connected with the fall of the Tang dynasty drove the foreigners out of Canton and Zaytun; they took refuge in Kalah and Palembang and for some time the trade in Far Eastern merchandise with Siraf and Oman was carried from these trading centers only.

In the tenth century the trade of Canton and Zaytun was revived. The Chinese annals give lists of the merchandise traded. In the late tenth century foreign trade was declared a government monopoly, but at the same time the ports of Ming-chow (now Ning-po) and Hang-chow (the Kinsai of Marco Polo) were opened.

During the later Sung period the Chinese customs duties were exceedingly high. The traders formed companies for the purpose of export. Each trader had assigned to himself a cabin in which he kept his merchandise. Ceramics were one of the important articles of export. It is to be remembered that in all the countries of Islam there was a great demand for celadon porcelain, which was said to have the property of neutralizing any poison which might be contained in the food served in it.

During the Mongol rule of China the high customs tariffs imposed by the Sung were considerably lowered in order to stimulate trade. The sea route was then secure enough for Marco Polo to return to Europe on one of the huge ships which he described so vividly. He embarked at Zaytun and terminated his voyage at Basra.

LATER EVOLUTION OF THE CHINA TRADE

During the Yuan dynasty the Western world had had, for the period of a century, a glimpse into the world beyond Islam, with its vast possibilities for trade. Christians were tolerated in the Chinese empire of the

Yuan. John of Monte Corvino was sent in 1291 to direct the Christian communities in China. He traveled via India by sea to China and was most kindly received by Timur (Tamerlane), the grandson and successor of Kublai Khan. John of Monte Corvino was appointed bishop of Khanbalik or Peking (now Peiping), and was often seen at the court of the emperor, who demanded his benediction and reverently kissed the cross. The New Testament was translated into the Mongol language, and a church was erected in the capital.⁵¹ In the year 1304, six thousand persons were baptized in Peiping, and the emperor took delight in hearing the Gregorian chant. In 1307, John of Monte Corvino was appointed archbishop of Peking by Pope Clement V. In 1314, there were not less than fifty convents of the Franciscans in China. John of Monte Corvino died in 1333 and was succeeded as archbishop of Peking by a French Franciscan by the name of Nicolas. But with the breakdown of the Mongol dynasty in 1368 and the ascension of the Ming, a violent reaction took place against anything foreign, and all the Christian settlements were wiped out.

From this moment both routes—overland and by sea—which had connected the Christian West with China, were barred, and the memory of China gradually dimmed in the minds of the Western nations. Of course the Arab and Indian sea-borne trade with the Far East went on; so did the overland trade between China and the Mohammedan states in Turkestan and Persia, to whom the art of China was an unattainable model of perfection.

The Orient seemed to have settled within itself. But suddenly the entire trading system of the Orient was upset by the arrival of newcomers from the West, coming from a direction from which they were least expected. In 1492, the Portuguese succeeded in circumnavigating the Cape of Good Hope and appeared in the Indian ocean.

Irresistible on account of their superior armament, they soon continued farther east and appeared in 1515 for the first time in China. These strange men from *Mu-Lan-Pi* (the Chinese version of the Arab Murabit, designating the Iberian peninsula) were to revolutionize the trade in the East, which had remained undisturbed for nearly one hundred and fifty years.

From now on the shipping of Arabs, Indians and Chinese had to give way to a trade which established direct connection between the Far East and Europe. The Portuguese and Spaniards soon saw the Dutch and

⁵¹ Grousset, *Histoire de l'Asie*, III, p. 89 ff.

British in the field, and the East was more, and more helpless against the encroachments of Western newcomers who were backed by formidable men-of-war.

Western supremacy, based on superior knowledge, not only in ship-building and sailing technique, but also in armament, limited the shipping of the Orientals to local traffic. In the wake of this superiority on sea followed the establishment of large colonial empires which still bring immense profits to the nations of the West.

This evolution began in the sixteenth century and developed during the three following centuries. It brought a tremendous increase of world trade. The articles demanded by the West multiplied in diversity and quantity. Far Eastern porcelain, lacquer, textiles and, after the eighteenth century, tea were sold all over Europe. Direct shipping in large ships reduced extraordinarily the risks and cost of shipping. European industry began to look for raw materials which could be secured at low cost in the countries of the East, and the list of imported articles and materials multiplied a hundred fold. Curios and luxuries moved into the background; their importance was overshadowed by the huge quantities of raw materials demanded by the developing industries of the West.

All these goods were secured by European merchants at the source, and since the sources were in many cases controlled by Europeans through their rule in their Eastern colonies, almost all the profits of this trade went into Western hands. The middlemen of old were eliminated.

The last factor eliminating the competitive power of the East was the superior organization of Western industries, which were able to flood the East with manufactured goods that could be sold cheaper than the products of the native handicrafts. Thanks to the industrial revolution, the trade balance swung, for the first time in history, in favor of the West.

During the Roman period and during the Middle Ages the position of the East had always been one of great advantage over the West. The East produced a great number of natural products and manufactured articles which the West was not able to produce. On the other hand, the East had only little demand for what the West had to offer. During the last one hundred and fifty years the position has been reversed. As a result of the industrial revolution, the West, with its tremendous technical development, has been able to undersell the native manufactured products of the East and, through its colonies, to capture control over the raw materials and natural products which the West needed with the result

that almost the whole traffic in these products slipped from Eastern into Western hands. Ultimately even the resistance of China and Japan was broken.

It would be a mistake to think that this change in the relation between East and West is merely of an economic order. Psychological factors are also of great importance. During the Middle Ages the East felt equal if not superior to the West. The economic and often military conquest by the West during the past three centuries has produced a feeling of helplessness in the East. Everywhere the West outwitted the East by superior knowledge and superior equipment and organization. Thus the West gained a prestige which it had never before possessed.

To live in Western style and to use Western articles has become a mark of distinction. The different finish of European articles attracts the Oriental eye, and the feeling for quality of production is more and more lost. The louder the color, the richer the decoration, the more it seems desirable to the half-westernized Oriental, who is helplessly overwhelmed by this new world which beats him, economically, politically and artistically. This economic and psychological victory of the West has increased tremendously the economic power of the West, and has produced a complete breakdown of the old economic order of the East.

But the East is beginning to understand that a reconstruction of the East is possible only by adopting Western methods and by gaining the treasure of information which has made the West powerful. Japan was the first Eastern power which set out systematically toward reconstruction on Western lines. Its industries in Japan and China are today organized on European lines. Its merchant fleet competes with Western shipping. Since the World War the East in general has made tremendous progress toward reconstruction with Western equipment. There is no doubt that we are only in the beginning of a tremendous development which will ultimately restore the equilibrium between East and West. It would be a great mistake to think that this movement is a movement of Westernization of the East. It is merely a matter of equipment, of organization and of knowledge. It is not a matter of a spiritual Westernization. The driving power in the development of Japan is not a Western spirit, but the spirit of duty and self-sacrifice which the Japanese state has built up in a tradition of over fifteen hundred years, and which is rooted in the old religious traditions of the East.

