

# On Great Navigation Age and its Four Stages

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**ABSTRACT:** The Great Navigation Age began in the early 15<sup>th</sup> century and finished at the end of 17<sup>th</sup> century, nearly lasting three centuries. We divide this period into four stages in accordance with its characteristics and nature. Stage one is the offshore oceanic voyage initiated by Zheng He (鄭和), Chengzu (明成祖, Emperor during the Ming dynasty in China) and Prince Henrique (Portugal). Stage two consists of the transoceanic voyage by Christopher Columbus, etc. Stage three is the circumnavigation represented by Ferdinand Magellan, Del Cano, Francis Drake, etc. Stage four is the voyage through the polar ice seas, mainly dominated by navigators from England, France and Holland. Russia is permanently engaged and dominates the voyage of the polar ice seas. Russia's navigation in the polar ice seas also belongs to the offshore oceanic voyage. The Great Navigation Age amounts to the most glorious chapter of navigation during the period of wooden sailboats.

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**KEYWORDS:** Great Navigation Age; Age of Great Geographic Discovery; China; Portugal; Spain; England; France; Holland; Russia.

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Both concepts ‘Great Navigation’ and ‘Great Navigation Age’ have been widely used in Chinese as well as international academic fields. The concepts have originated from some books in Japan, including *Great Navigation Age: Generality, Chronology, Index* by Iizuka Koji et al. (Tokyo: Iwanami Shoten, 1979),<sup>1</sup> *To Seek out Japan in the Great Navigation Times: Acceptance and Tortuousness* by Ooga Tetsuo (Tokyo: Shogakukan Publishers, 1979),<sup>2</sup> and *Great Navigation Age* by Ikuta Shigeru et al. (Tokyo: Fukutake Shoten, 1986).<sup>3</sup> The West and Soviet Russia often refer to them as the Age of Great Geographic Discovery. The essay explores Great Navigation's denotation and connotation, from the beginning to the end. It focuses on its contents and characteristics, commanders' effects, etc. around the Great Navigation Age.

## I

*Navigation* is written as ‘航海’ (hanghai) in Chinese, ‘мореплавание’ (moreplavanie) in Russian and ‘航海’ (kōkai こうかい) in Japanese, meaning ‘to sail at sea by taking a ship’ (*Modern Chinese Dictionary*).<sup>4</sup> Great naturally refers to great scale, great range, great effect, and great significance. And Age is defined as certain stages of classification according to the circumstances in the degree of some aspects. We try to show that the Great Navigation Age is the era that human beings sail, explore, discover, and migrate on a large scale from the 15<sup>th</sup> to the 17<sup>th</sup> centuries.

Human nautical activities occurred from time immemorial, aiming at fishing, hunting, communicating, trading, transporting, warring, and migrating. Their nautical level and abilities also advanced step by step, from low to high, weak to strong. Until the 15<sup>th</sup> century, their nautical activities are not only immensely expanded in terms of scale, range, effect, and significance when being compared with the past accomplishments, but the trips also lasted a very long period of time by the end of the 17<sup>th</sup> century. During this period, civilised humans had sailed across most of the oceans in the world, reached most continents and linked the isolated unknown world to the connected and known world by sea. For these reasons, Chinese as well as international scholars have adopted the Great Navigation Age so as to emphasise, generalise, and embody the maritime status and effects at that historical time. Both navigators and people who supported them and offered aid are also commanders, practitioners, and builders of the Great Navigation. *Seafarer* is defined as ‘one voyager with skills and experience participating in oceanic navigation many times, especially referring to explorers.’<sup>5</sup> We assert that this definition is comparatively better than *navigator*. Oceanic voyage is often linked with exploring, utilising wind powers and currents under control, and manual sailboats in the Great Navigation Age. Nobody could be known as a seafarer in modern and present times, because their activities are irrelevant with exploration and taking sail boats. Zheng He (鄭和), Wang Jinghong

(王景弘), Hou Xian (侯顯), Fei Xin (費信), Ma Huan (馬歡), Gong Zhen (聰珍), etc. are the most excellent navigators in this Age. They commanded not only a fleet to sail far across the oceans, but also carried out some explorations in Southeast Asia, the Indian Ocean and the northern part of East Africa.

Zheng He, Emperor Chengzu (明成祖, third emperor of the Ming dynasty, for consistency in China), and others are the pioneers, innovators, and founders of the Great Navigation. Emperor Chengzu gave the orders to set up the biggest oceanic fleets in the world since the beginning of history. Zheng He’s voyages to the West are recorded in ‘The Stone Tablet in Changle Tianfei Temple: The Record of Tianfei Inspiration’:

*commanded several thousands of people including officials and soldiers, managed more than 100 giant ships [...] In the third year of Yongle (Emperor Chengzu’s reign title, 1405), obeying His Majesty’s order he sailed to the Western Oceans seven times up till now. The foreign countries [...] small or big, he reached more than 30. His fleets voyaged over 5,000 kilometres. Observing the oceans, giant torrents surging into the sky, huge billows resembling the mountains; watching various foreign countries, widely isolated in dimly fog and clouds. Yet, Chinese ships’ sails spread wide and high, voyaged very fast days and nights, and wading through raging billows was like going through even roads.*<sup>6</sup>



Fig. 1: Zheng He’s route map for sailing to Western Ocean (1405–1433).  
Source: <https://commons.wikimedia.org/wiki/File:Zheng-He-7th-expedition-map.svg>

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Zheng He's navigation to the Western Oceans (Zheng He's expedition or voyage) on a large scale expanded and strengthened the transportation and communication by sea between the Pacific and Indian Oceans, and between Asia and Africa. It established and improved the commercial exchanges, people's communication, and friendly relationships between China and Asian and African regions. His contributions are great and documented in the historical books. Prince Henrique (Portugal) organised and led Portuguese navigations southwards along the Western coast of Africa soon after Zheng He began the oceanic voyage (about ten years later). Compared to Zheng He's voyage, the scale of Portuguese oceanic navigation is much smaller, but they combine the navigation with exploration, discovery, trade, colonisation, exploitation, and slavery. So their voyages are more persistent with strong impetus and zeal. Although Zheng He's voyages were terminated (after the return voyage during the eighth year of Xuande, 1434), the Portuguese still continued to navigate, using sail-lamps and wind sails. Through continuous long-term efforts, they discovered or re-discovered the Azores islands, Madeira, the Canary Islands, the Cape Verde Islands, and the Bioko islands in Gulf of Guinea in the Atlantic on the western shore of Africa, and discovered thousands of kilometres of coastlines of the West African mainland, ranging from the southern part of Cape Bojador (Spanish Sahara, 26 degrees north latitude) to the southern part of Africa. At last, Bartolomeu Dias led a fleet around the southern part of Africa and voyaged into the Indian Ocean from the Atlantic in 1488.

### II

The Age of Great Navigation lasted nearly three centuries. To carefully study and gain a comprehensive grasp of this era, it is helpful to identify its stages of development. So, how could we divide this Age into stages? The following methods are considered in order to classify it. The first method is to classify it

according to time, for example: beginning stage, early stage, interim, and end stage. Yet, this method lacks depth and potency and employs a superficial measure. The second one is to classify it according to nations or cultures, such as a Chinese stage, a Portuguese-Spanish stage, an English-French-Dutch stage and a Russian stage. However, this approach lacks a sequential dimension as well as a historical sense (because history inevitably mentions dates and periods). The third method is to classify it based on the regions where ships and navigators arrived, such as Southeast Asia, the North Indian Ocean (Zheng He), Africa and the Indian Ocean (Portugal), the Atlantic Ocean and Americas (Spain), the North Arctic Ocean (England, France, Holland, and Russia), and an Australian stage (Holland). Yet, this one lacks a universal outlook and a global horizon. None of the classifying methods mentioned above can cover nautical development and improvement, and demonstrate navigators' and average sailor's development (regarding their predecessors), as well as the significance of their actions. Therefore, we use a new kind of stage classification in accordance with features based on nautical considerations.

The period from Zheng He's first expedition in 1405 to Bartolomeu Dias's fleet sailing into the Indian Ocean from the Atlantic in the late 1480s can be regarded as the first stage. We epitomise it as the offshore oceanic navigation stage from the nautical perspective, because the far navigation almost took place along the coasts or offshore. Far navigation is sometimes far away from the coasts and both its point of departure and destination are not located in two sides but in different places of one side of an ocean. Treasure ships and dispatch ships in Zheng He's voyages sailed from southeast Sri Lanka and arrived at the northern coast of East Africa via the Maldives islands.<sup>7</sup>

Some scholars think Zheng He sailed across the Indian Ocean. In fact, he only sailed to the northwestern edge of the Indian Ocean, which connects the Arabian Basin and the southeastern edge

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of the Carlsberg Ridge.<sup>8</sup> Strictly speaking, he slanted across the Indian Ocean. Even so, he navigated much further than the Portuguese, who sailed to Azores as the furthest destination from the coast. There are about 2,800 kilometres from Sri Lanka to Northeast Africa, 2,200 kilometres from Maldives to Northeast Africa, and just 1,400 kilometres from Portugal to the Azores.<sup>9</sup> In Zheng He's expedition, there are 720 nautical miles long furthest from the land (half distance between Mogadishu and Male, Maldives). But there are only about 380 nautical miles between Portugal and the furthest land where Portuguese arrived (São Miguel, the eastern part of the Azores).<sup>10</sup> Therefore, Zheng He's fleet is decades ahead when compared to Portuguese navigation. Lenin once said, 'to judge historical merits is not based on whether historical activists can provide something or not, which is needed in modern times, but it depends on what new things they can provide compared to their predecessors'.<sup>11</sup> Until 1498, Vasco da Gama commanded a fleet of ships to slant across the Indian Ocean, and arrived at India from the northern part of East Africa. The Portuguese just caught up with Zheng He in this aspect. Vasco da Gama encountered problems — no winds or dead winds while making a return voyage — and sailed nearly three months (3 days less) far from invisible lands. As they did not eat vegetables, fruits, and fresh foods for a long time, sailors were threatened by scurvy (shortage of vitamin C) and the mortality rate was very high.<sup>12</sup> Scurvy was the great threat to oceanic voyage and this fatal nautical disease first became rampant at that time. Until the second half of the 18<sup>th</sup> century, it was not controlled.

In 1492, Columbus commanded a Spanish fleet to sail across the Atlantic and reached the Caribbean in the Americas. It took him over 220 days to make this voyage. His round trip amounts to 8,000 nautical miles, and single trip more than 4,000 nautical miles. He continuously sailed over 30 days far away from visible lands. Henceforth, the Great Navigation Age

and oceanic voyage step into one new stage that we define as the transoceanic voyage. From then on, Spanish, Portuguese, British, French, and Dutch fleets often made round trips along two sides of the Atlantic, closely bridging the old continent with new continents. Compared to the offshore voyage, the transoceanic one encountered many problems, such as navigation, location, supply, usages of wind direction and currents, shelter escaping storm, sailors' psychological preparation, physical consumption, disease prevention, and ships' maintenance. Therefore, the transoceanic voyage symbolises that human nautical skills and abilities of manipulating the nature ascended to a new stage.

From 1519 to 1552, Magellan (Del Cano after Magellan's death) commanded a Spanish fleet to carry out human navigation around the world for the first time. The voyage set off from Western Europe, sailed across the Atlantic westwards, made a detour in South America, went through the Strait of Magellan, crossed over the Pacific, the largest ocean in the world, went through Southern Asia (Malay) islands, nearly sailed across the Indian Ocean, made a detour via Africa and then returned back to Western Europe. Magellan's voyage lasted three whole years from the beginning to the end, and its journey was about 80,000 kilometres (14,460 marine leagues, recorded in *Journal of Magellan's Voyage* by Antonio Pigafetta).<sup>13</sup> Each marine league is equal to approximately 5.56 kilometres, and the total distance adds up to 80,000 kilometres. The voyage experienced four continents in the world: Europe, America, Asia, and Africa, and passed through the equator for four times. It sailed one round of the Earth around 360 longitudes from East to West, northerly reached the region at a latitude around 43 degrees North (the far northern point where ship *Trinidad* arrived when returning back to Panama in America,<sup>14</sup> and later was forced to retreat to the Moluccas Islands), and in the south arrived in the area 52 degrees south latitude

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Fig. 2: Posthumous portrait of Christopher Columbus by Sebastiano del Piombo, 1519. Source: [https://en.jinzhao.wiki/wiki/Christopher\\_Columbus](https://en.jinzhao.wiki/wiki/Christopher_Columbus), 2021-08-15.

(the furthest southern point where the fleet arrived while going through Strait of Magellan). The area of nautical trace amounts to 0.422 billion square kilometres. Nautical Trace Area is a new concept coined by the essay authors, inspired by the term Water Basin Area. It equals the distance between two longest points of any directions in voyage multiplied by the distance between two widest points which are vertical to ligature of two longest points (when counting, move two widest points in parallel to the straight line which is vertical to the ligature of two longest points). As for Magellan's voyage, its Nautical Trace Area equals that of 40,000 kilometres of the equator length multiplied by the distance 10,555 kilometres from 52 degrees south latitude to 43 degrees north latitude, and adds up to 0.422 billion square kilometres.

Magellan's voyage was the most extensive one. It covered the widest Nautical Trace Area in

human history. It pushed the Great Navigation Age in the early 15<sup>th</sup> century into another new stage. We summarise Magellan's voyage as around-the-world oceanic voyage. Magellan's first global navigation proved that humans can take a ship to land at any place on Earth. People can sail and cross over any ocean if they are not frozen. Nautical position in human social practice and people's recognition to navigation are greatly improved. The first circumnavigation is also the far oceanic voyage with many difficulties, great hardships and the biggest casualties throughout history. During Magellan's voyage, half of his ships were lost. Of five ships, one made the successful return voyage, one was sunken in the sea, one was self-discarded, one was captured by Portuguese in the Moluccas, and one fled and sneaked off from Strait of Magellan. Two thirds of the aforementioned crew were lost. Of about 270 mariners, 18 survivors triumphantly returned, some of them were captured by the Portuguese in Cape Verde when making a return voyage. 13 of them were released and came back later. Four survivors who were captured by Portuguese in the Moluccas and imprisoned for four years were set free later (crew in ship *Trinidad*), except that one fourth of the crew deserted.<sup>15</sup> Nautical personnel underwent terrific waves, fierce storms, and dangerous rapids in the Atlantic, Pacific, and Indian Oceans, and survived scurvy disease, lethal hunger, and thirst twice in the Pacific and Indian Oceans (*Trinidad* twice in the Pacific). Magellan's voyage demonstrates that humans have courage, ability, and perseverance to recognise and manipulate the nature, and set up the top monumental work in nautical history.

Following Magellan's voyage, more than 50 years later Francis Drake, a British navigator, commanded a British fleet to make the same voyage as Magellan's, and took three years to finish it (1577–1580). The main significance of this voyage is that Drake was among the few seafarers

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who commanded around-the-world navigation from the beginning to the end in nautical history. Anyway, Magellan's great contribution is that he proved that people can circumnavigate the globe based on his two third around-the-world journey. Unluckily, Magellan was beaten to death because he interfered with Philippine internal affairs and participated in the country's civil war.

From the second half of the 16<sup>th</sup> century to the early 17<sup>th</sup> century, England and Holland sought new routes through the Arctic Ocean to the northeastern part of China, sailed to the Arctic, north of Norway, European Russia, and explored these areas for many times. Long before, all nautical activities of civilised humans were confined to sea areas in tropical and temperate zones, and they never sailed into sea areas of icy zone in the polar circle. After the Great Navigation Age started, civilised humans began to set foot on sea areas in frigid zone. From then on, British and Dutch navigators frequently sailed into Barents Sea and Kara Sea in the Arctic Ocean, immensely spanning the polar circle around 66.5 degrees north latitude, and reached the far north place, the northwestern of Spitsbergen at 80 degrees north latitude. The most important and famous voyages that British and Dutch people had navigated in northeast ice seas include the following:

In 1553, Hugh Willoughby and Richard Chancellor commanded the British fleet to take a detour via Northern Europe to the White Sea coast of European Russia. During the voyage, Hugh Willoughby reached the southwest of Novaya Zemlya at 72 degrees north latitude, and continued the voyage three days northwards.<sup>16</sup> Until 1581, British people had already sailed to the southern Kara Sea.

In 1594, William Barents led the Dutch fleet to arrive at the northernmost part of Novaya Zemlya around 77 degrees north latitude.<sup>17</sup> His dispatched ships reached the western coast of Yamal Peninsula.

From 1596 to 1597, Barents reached the western shore of Spitsbergen around 80 degrees north latitude in 1596. They were going to go through the North Pole, but their return was blocked by eternal ice layers, and then detoured the northern of Novaya Zemlya eastwards.<sup>18</sup>

In 1607, Henry Hudson commanded British ships to sail northeastwards again and tried to go through the North Pole between Greenland and Spitsbergen, but their return voyage was also set back by eternal ice layers after reaching the place around 80 degrees north latitude.<sup>19</sup>

The navigation that England and Holland sought the northeastern route pushed the Great Navigation Age into the highest stage. By focusing on navigation, we abstract it as the stage of navigation in ice polar seas. So far, we have discussed all four types of oceanic voyages and its four stages, namely the offshore oceanic voyage, the transoceanic voyage, the around-the-world voyage, and the voyage through the ice polar seas.

### III

The four stages of the Great Navigation Age, we have argued above, not only are different from one another, i.e., early or late, high or low, but also are woven and melted together. The voyage of the early stage was still proceeding after the voyage of the later stage began. Both four stages and four types of oceanic voyages rely on each other, and are reflected by each other, which all together weave out the route distributions, scattered across the globe. And they also play various gorgeous symphonies of movement during the Great Navigation Age.

If there is one new stage concerning navigation, we think it is the diving of voyagers under water. It is not an ordinary voyage, but a special one. The voyage under water is performed by controlling submarines or submersibles, and its usage is mainly limited to the military field and scientific research. In the second half of the 19<sup>th</sup> century, diving voyages became comparatively safe

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and reliable, and their technique was improved and practically used. Hence, people can conduct oceanic voyages by diving. The meaning of diving voyage in semantics is not ‘taking a ship to navigate in oceans’, but managing submarines or submersibles to navigate undersea waters. We think it is improper to treat diving voyage as another new stage in the Great Navigation Age. Moreover, diving voyages’ age is closely related with great explorations, just as navigators are relevant with explorers. Furthermore, its age almost ended at the end of the 17<sup>th</sup> century, because civilised people had already sailed and explored the main oceans or sea areas around the globe at that time; they also had discovered, reached or assessed the main lands, continents and islands around the globe (except Antarctica, there are nobody and permanent inhabitants there up until now). At the present time, ice sea voyage can be guided to sail by ice-breaking ships powered by atomic energy. This kind of voyage costs a lot, and can only break and get through thin ice layers, not thick ones, so its effects are immensely limited. Of course it cannot form a new stage of the voyage, and just can be regarded as one type of special navigation. Seemingly we could see it as the development or advancement of the voyage on polar seas.

The voyage in cold polar ice seas is the most difficult and dangerous, and is connected with great hardships. Although people can thaw ice into fresh water, raging winds, giant waves, terrific thirst and hunger, and scurvy still threaten them. Due

to severe cold winters, great hardships and dangers caused by the freezing of floating ices, scurvy’s threat becomes more serious than before. Besides the level of navigation technique, the manner of how to make the location and nautical chart becomes more difficult. Technically speaking, magnetic declination and inclination are enlarged due to approaching the magnetic pole. By making a general survey of the important far voyages before, for example, Zheng He’s, Wang Jinghong’s, Diogo Cão’s, Bartolomeu Dias’s, Columbus’s, Vasco da Gama’s, John Cabot’s, Pedro Álvares Cabral’s, and Magellan’s, we can conclude that they suffered the losses, even some of them were great losses, but at least chief commanders kept safe and sound (Zheng He died during the return trip of the seventh voyage; John Cabot died of an illness during the second voyage and his son Sebastian Cabot continued to command the voyage in place of him;<sup>20</sup> Magellan was killed due to joining in civil war of local rulers in the Philippines). Hugh Willoughby froze to death when they hibernated in Nokuev Island (Остров Нокуев) Bay on open White Sea;<sup>21</sup> and William Barents was frozen to sustain poor resistant abilities when wintering in the northern part of Novaya Zemlya, so he and some people died of scurvy.<sup>22</sup>

Humans can only carry on the polar voyage in ice oceans during the periods of the summer and early autumn. They have to deal with the frostbite and scurvy on frozen oceans if sailing time passed. It is the most difficult to find green plants, foods, and other fresh foods that can prevent and inhibit the scurvy in frigid polar areas covered with thick ices and heavy snows. In earlier times, scurvy disease might occur under the condition of voyaging over two months far from invisible lands and no supplies ashore, and later the disease became more terrible because of often wintering in polar areas (from deep autumn to spring). Navigators’ voyages on those areas further embody human’s great courage, perseverance, wisdom, ability, self-sacrifice, and exploration spirit.

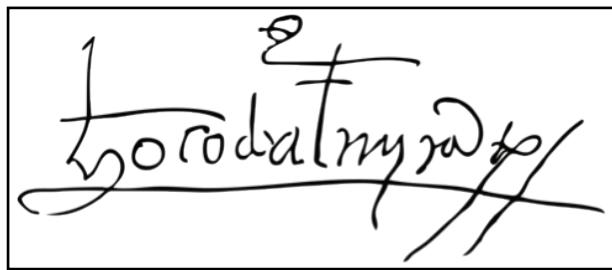


Fig. 3: Vasco da Gama’s signature (it reads Ho Comde Almirante, ‘The Count Admiral’). Source: [https://en.jinzhao.wiki/wiki/Vasco\\_da\\_Gama](https://en.jinzhao.wiki/wiki/Vasco_da_Gama), 2021-08-15

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The polar voyages in ice oceans set sail almost at the same time of the year from two directions: the northern, and the west-eastern in the Atlantic. From the western direction, people first explored the northern part of West Indies, and then sought northwestern routes to Asia after they knew the West Indies is a new continent. Its voyage course was spread further and further northwards. Hereafter, more and more countries participated in the voyage one after another, such as England, Portugal, Spain, France, and Holland, of them England played the leading role. The most important and well-known voyages in northwest ice oceans are as follows.

In 1497, John Cabot, an Italian navigator under English commission, sailed to Newfoundland around 50 degrees north latitude;<sup>23</sup> in 1500, Gaspar Corte-Real, a Portuguese sailor, sailed to the north of Greenland above 60 degrees north latitude;<sup>24</sup> and in 1535, Jacques Cartier, a French navigator, sailed to Saint Lawrence Bay and River from the northern Belle Isle Strait at 52 degrees northernmost latitude.<sup>25</sup> And then, Martin Frobisher, an English navigator, arrived at Frobisher Bay around 63 degrees north latitude in Baffin Island in 1574;<sup>26</sup> John Davis, another English navigator, first went through polar circle and Davis Strait from the northwestern direction, and sailed to the ice border around 72 degrees north latitude in Baffin Bay in 1587;<sup>27</sup> and Henry Hudson, an Englishman, who explored the routes in northeast ice sea, again sailed to Hudson Bay around 60 degrees north latitude in 1660.<sup>28</sup> In 1616, Robert Bylot and William Baffin from England voyaged around the whole Baffin Bay and reached the northernmost place at 78.5 degrees north latitude;<sup>29</sup> and in 1631, Luke Foxe from England voyaged to Fox Bay around the Arctic Circle.<sup>30</sup>

As is argued above, polar voyage in the ice oceans is the most difficult and dangerous, so its death rate of sailors is much higher than voyage in tropical and temperate oceans. The polar voyage

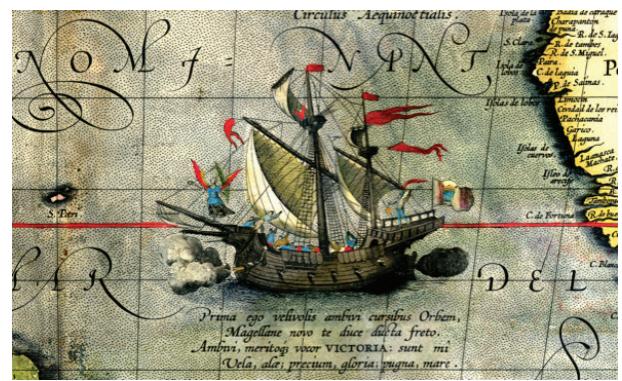


Fig. 4: *Victoria*, the only ship in Magellan's fleet that completes the circumnavigation. Detail from a map by Ortelius, 1590. Source: [https://en.jinzhao.wiki/wiki/Ferdinand\\_Magellan](https://en.jinzhao.wiki/wiki/Ferdinand_Magellan), 2021-08-15

in ice oceans in the northeastern America is more dangerous and difficult than ice oceanic voyage in Europe and the northern parts of Asia. In other words, the frigid polar voyage in ice oceans is the most difficult and dangerous in the whole Great Navigation Age. It also embodies human's perseverance, curious adventure, exploring and learning spirits. For it is a far way from its country and civilised regions, and none of aids, relief, and reorganised activities can be offered nearby.

## IV

Russia had permanently waged the ice oceanic voyage in frigid polar and became the epitome of this type of voyage. In the early 15<sup>th</sup> century, fishers and hunters on the White Sea coast in Russia, sailed to the southern end of Spitsbergen (Grumman in Russian), South Isle of Novaya Zemlya and Kara Sea in order to fish and hunt marine beasts.<sup>31</sup> After this, they sometimes reached Spitsbergen, South Novaya Zemlya and Kara Sea, too. But Russian voyages were not related to the exploration at that historical time, and their voyage course was not very far either, so these voyages cannot form a stage in the Great Navigation Age. At the beginning of the 17<sup>th</sup> century, Russia rose to join in the voyage. Generally speaking, Russians sailed eastwards along European Russia, the northwest Asian coast in

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the Arctic Ocean in order to explore, hunt marine animals, levy fur taxation on aborigines, and open up new routes to the northeastern part of China. Around the year of 1620, an unknown Russian navigator detoured the northernmost part of Asia (also the northernmost place of Eurasia), the northern part of Taymyr Peninsula at 77.5 degrees north latitude. In the 1940s, some Russian ships' wreckage and goods dating back to the early 17<sup>th</sup> century were discovered in this region.<sup>32</sup> In the years 1633–1641, Lieb Andrianov (I. Rebrov) sailed into the sea from Lena River, voyaged westwards to the southeastern place near Taymyr Peninsula along the coast and again made a U-turn voyage eastwards into the East Siberia Sea.<sup>33</sup> In 1644, M. V. Stadukhin sailed eastwards to Kolyma Estuary from Indigirka Estuary.<sup>34</sup> Russia's most important and famous ice oceanic voyage in the polar occurred and were accomplished in the years 1648–1649. Fedot Alekseev (Popov) and Semen Dezhnev commanded a fleet to sail eastwards to the easternmost place of Asia from Kolyma Estuary, detoured Cape Dezhnyov, went through the Bering Strait southwards, first voyaged into the Pacific from the Arctic Ocean, and reached Kamtchatka Peninsula

and Gulf of Anadyr respectively.<sup>35</sup> Popov and Dezhnev's ice oceanic voyages initially opened up new sea routes to the Northeast, and also they proved the profoundly-affecting predictions and estimates that Dmitry Gerasimov, a Russian scholar, had once put forward during his initiating new route of Northwest in 1525, in other words, there exists a strait linking the Arctic Ocean to the Pacific, and through it people can go to China, the Orient and the Pacific.<sup>36</sup> Popov and Dezhnev cannot safely and reliably detour the northern part of Taymyr Peninsula, and must land on the central-south part in the western of the Taymyr Peninsula before traversing it by walking eastwards, due to the obstacles of eternal ice layers at that time. Here is the reason we think that some of Gerasimov's predictions and estimations are realised. In 1686, Bezvestnaya (exact name) again detoured Taymyr Peninsula during his voyage from West down and up to East.<sup>37</sup> Unfortunately, they got lost and disappeared as in the previous voyage, predicting they would die.

Russia's ice oceanic voyages in the polar region were mainly waged in the Arctic area above 70 degrees north latitude, and reached the northernmost place, the northern sea area on Taymyr Peninsula around 77.5 degrees north latitude and the southern sea area on Spitsbergen at nearly the same latitude with the former. What makes Russian navigations different from those of the West is that the Russian mainland is close to the Arctic Ocean, and the supplies can be provided nearby for the voyage. At the same time, Russia's ice oceanic voyages in the polar region also belong to the offshore oceanic navigation. In the Great Navigation Age, Russia's voyages spirally ascend to melt the first stage of oceanic voyage mode with the fourth stage of its highest mode into a complete body, and combine them together.

China is not only the pioneer in the Great Navigation Age and took on the leading role in the offshore voyage, but also is one of main target places of voyage in the latter three stages, one of European navigators' yearning places, and one of the main



Fig. 5: The route map of navigation and expedition of Semen Dezhnev and Fedot Popov in 1648–1649. Source: [https://pikabu.ru/story/gibel\\_yekspeditsii\\_alekseeva\\_popova\\_i\\_eyo\\_itogi\\_7668751,2021-08-15](https://pikabu.ru/story/gibel_yekspeditsii_alekseeva_popova_i_eyo_itogi_7668751,2021-08-15)

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impulses and stimulating factors to navigate a voyage. In the 14<sup>th</sup> century, the book *Marco Polo's Travels* disseminated in Western Europe, the westerners began to worship and yearn for China very much. Since the 1460s, the main aim that Portuguese sought the route southwards along West African coast gradually became obvious, namely detouring Africa, sailing into the Indian Ocean, opening up one new route to civilised countries in the Orient, such as India and China, which were ancient, great, powerful, and rich. The aim with which Columbus and other navigators opened the new stage of transoceanic voyage was sailing across the Atlantic westwards to reach China, Japan, and India. Columbus looked for Cathay's cities, harbours and subjects everywhere, carrying the credentials with him to Mongol Great Khan ruling China at that time (he was not aware that the Yuan dynasty had been already overthrown). The direct purpose for which Magellan initiated the new stage of global navigation was that of competing with Portugal and stealing a march on Portuguese to reach Maluku in Indonesia. Yet the routes along which they navigated a sail across the Atlantic and Indian Ocean (Del Cano also opened one new section), and circumnavigated Africa are opened up by Columbus, Vasco da Gama and Bartolomeu Dias, etc. in order to reach China and India. England and Holland sailed to polar ice ocean in the Northeast, England and France sailed there in the Northwest, and Russia sailed there in the north of Asia. All of them wanted to pioneer new waterways to China. During the stage of the ice oceanic voyage in frigid polar, the temptation and attraction of China surpassed India and became the

permanent driving force, the strongest magnetic pole and the biggest tempting place. In general, China is closely connected with the Great Navigation Age, and forges an indissoluble bond with it. China was the pioneer, founder, and guide during the Great Navigation Age.

In terms of navigation, the West gradually caught up with China after Zheng He's and Emperor Chengzu's voyages, and roundly surpassed the Orient at the end of the Ming dynasty (from the early 17<sup>th</sup> century), which is most obviously reflected in naval power, marine shipping, fishing or marine resources development. At the end of the Qing dynasty, western gunboats bombarded to open the door of China, and Japanese pirates from barbarians' islands extensively invaded China by sea (or through Korea by sea) from the 1930s to 1940s. After the founding of the People's Republic of China, China's nautical industry began to recover. China underwent a period of reform and opening up to the outside world, so China's nautical enterprises began to revitalise (naval power, marine transportation, fishing, and marine resources development). 'More and more guests from far came to talk about vast oceans. Desolate and boundless continent swiftly turned into Avatamsa place. The third epoch of oceanic civilisation first emerged, and lasts near five centuries. How could we Chinese re-prosper our nation's civilisation? High winds became more violent, and spring tides became more torrential.'<sup>38</sup> Industrious, brave, and wise Chinese can surely rally their nautical industry, restore the glory of Zheng He's expedition and build the new marine age with all peoples in the world together. **RC**

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## HISTORIOGRAFIA

## NOTES

- 1 Iizuka Koji et al., *Daikoukai zidai: gaisetsu nenpyou sakuin* (Tokyo: Iwanami shoten, 1979).
- 2 Ooga Tetsuo, *Tanbou daikoukai zidai no nihon <6>: zyuyou to kussetu* (Tokyo: Shogakukan 1979).
- 3 Ikuta Shigeru et al., *Daikoukai zidai* (Tokyo: Fukutake shoten, 1986).
- 4 Lü Shuxiang and Ding Shengshu, eds., *Xiandai hanyu cidian*, 7<sup>th</sup> ed. (Beijing: Zhongguo shehui kexue yuan yuyan yanjiu suo, 2016).
- 5 Albert Sydney Hornby, Anthony Paul Cowie, and Jack Windsor Lewis, *Oxford Advanced Learner's Dictionary of Current English*, 3<sup>rd</sup> ed. (London: Oxford University Press, 1974).
- 6 Jian Bozan and Zheng Tianting, eds., *Zhongguo tongshi cankao ziliaoj: gudai bufen*, vol. 7. (Beijing: Zhonghua shuju, 1988).
- 7 Cf. Jinian Weida Hanghaijia Zheng He Xia Xiyang 580 Zhounian Choubei Weiyuanhui and Zhongguo Hanghai Shi Yanjiuhui, eds., *Zheng He xia xiyang lunwenji* (Beijing: Renmin jiaotong chubanshe, 1985), 48, 51, 60.
- 8 Cf. "The Pacific," "The Indian Ocean," and "African Topography" in Zhongguo Ditu Chubanshe, ed., *Zuixin shijie ditu ji* (Beijing: Zhongguo ditu chubanshe, 1990).
- 9 Cf. "The Pacific," "The Indian Ocean," and "African Topography" in Zhongguo Ditu Chubanshe, *Zuixin shijie ditu ji*.
- 10 Cf. "Morocco, Algeria, Tunisia" in Bartholomew, *The Times Atlas of the World*, 7<sup>th</sup> ed. (London: Times Books Limited, 1985).
- 11 Vladimir Lenin, "Ping jingji langman zhuyi," in *Liening quanji*, Vol. 2, ed. Zhonggong zhongyang Makesi Engesi Liening Sidalin zhuzuo bianyiju (Beijing: Renmin chubanshe, 1959), 150.
- 12 Cf. "Guanyu Dagama hangxing de yiming biji," in *Shijie tongshi ziliaoj xuanji: zhongguo bufen*, ed. Guo Shoutian (Beijing: Commercial Press, 1981).
- 13 Richard Hamble, *Hanghai de renmen: tanxianzhe*, trans. Jiao Yongke and Zou Deci (Beijing: Haiyang Chubanshe, 1985), 139.
- 14 I. P. Magidovich and V. I. Magidovich, *Ochrki po istorii geograficheskikh otkrytij*, vol. 2 (Moscow: Prosvesshcheniye, 1983), 138.
- 15 For more details about the first circumnavigation, refer to Stefan Zweig, *Maizelun de gongji*, trans. Fan Xinlong, Jing Qinsan, and Zang Le'an (Changsha: Hunan renmin chubanshe, 1982).
- 16 Cf. Magidovich and Magidovich, *Ochrki*, 214.
- 17 Cf. Boies Penrose, *Travel and Discovery in the Renaissance, 1420–1620* (New York: Atheneum, 1975), 216.
- 18 Cf. Isabel Barclay, *The Great Age of Discovery* (London: Dennis Dobson, 1956), 142–143.
- 19 Cf. Magidovich and Magidovich, *Ochrki*, 221.
- 20 Cf. Raleigh Ashlin Skelton, "Cabot, John," in *Encyclopædia Americana*, Vol. 5 (Danbury: Grolier Inc., 1983), 122.
- 21 Cf. Magidovich and Magidovich, *Ochrki*, 214.
- 22 Cf. Barclay, *The Great Age*, 146–148.
- 23 Cf. Geoffrey Barraclough, ed., *Taiwushi shijie lishi dituji* (Beijing: SDX Joint Publishing Company, 1982), 157.
- 24 Cf. Penrose, *Travel*, 180.
- 25 Cf. Barraclough, *Taiwushi*, 157.
- 26 Cf. Barraclough, *Taiwushi*, 157.
- 27 Cf. Barraclough, *Taiwushi*, 157.
- 28 Cf. Barraclough, *Taiwushi*, 157.
- 29 Cf. "Baffin, William," in *Encyclopædia Britannica: Micropædia*, Vol. 1, ed. Warren E. Preece and Philip W. Goetz (Chicago: Encyclopædia Britannica, Inc., 1974), 726.
- 30 G. W. A. Bush, "Foxe, Luke," in *Encyclopædia Americana*, vol. 11 (Danbury: Grolier Inc., 1985), 678.
- 31 See the large map in Academy of Soviet Union, ed., *Shijie tongshi*, Vol. 4, pt. 1 (Beijing: SDX Joint Publishing Company, 1962), 9.
- 32 Cf. M. I. Belov, *Istorija otkrytija i osvojenja severnovo morskovo puti*, Vol. 1 (Moscow: Morskoy Transport, 1956), 132.
- 33 Cf. Magidovich and Magidovich, *Ochrki*, 276.
- 34 See the large map in Academy of Soviet Union, *Shijie tongshi*, Vol. 4, pt. 1, 9.
- 35 See the large map in Academy of Soviet Union, ed., *Shijie tongshi*, Vol. 5, pt. 1, 196.
- 36 Cf. L. S. Berg, *Ochrki po istorii russkikh geograficheskikh otkrytij* (Moscow: Academy of Soviet Union, 1949), 12–13.
- 37 Cf. Belov, *Istorija*, 132.
- 38 "Ershi shiji Taipingyang ge," Shicimingju, accessed September 27, 2021, <https://www.shicimingju.com/chaxun/list/1111730.html>.

## HISTORIOGRAPHY

## BIBLIOGRAPHY

- Academy of Soviet Union, ed. *Shijie tongshi* 世界通史 (The General History of the World). Vol. 4, pt. 1. Beijing: SDX Joint Publishing Company, 1962.
- Academy of Soviet Union, ed. *Shijie tongshi* 世界通史 (The General History of the World). Vol. 5, pt. 1. Beijing: SDX Joint Publishing Company, 1963.
- “Baffin, William.” In *Encyclopædia Britannica: Micropædia*. Vol. 1, edited by Warren E. Preece and Philip W. Goetz, 726. Chicago: Encyclopædia Britannica, Inc., 1974.
- Barclay, Isabel. *The Great Age of Discovery*. London: Dennis Dobson, 1956.
- Barraclough, Geoffrey, ed. *Taiwushi shijie lishi dituji* 泰晤士世界歷史地圖集 (The Times Atlas of World History). Beijing: SDX Joint Publishing Company, 1982.
- Bartholomew, John, & Son Ltd., *The Times Atlas of the World*, 7<sup>th</sup> ed. London: Times Books Limited, 1985.
- Belov, M. I. Белов, М. И. *Istorija otkrytija i osvoenja severnovo morskovo puti* История Открытия и Освоения Северного Морского Пути (The History of Discovery and Mastery upon the Northern Marine Route). Vol. 1. Moscow: Morskoy Transport, 1956.
- Berg, L. S. Berg, Л. С. *Ochrki po istorii russikh geograficheskikh otkrytij* Очерки по Истории Русских Географических Открытий (The Outline of History in Russian Geographic Discovery). Moscow: Academy of Soviet Union, 1949.
- Bush, G. W. A. “Foxe, Luke.” In *Encyclopedia Americana*. Vol. 11, 678. Danbury: Grolier Inc., 1985.
- “Guanyu Dagama hangxing de yiming biji 關於達·伽馬航行的佚名筆記 (Anonymous Notes of Vasco da Gama's Voyage).” In *Shijie tongshi ziliao xuanji: zhongguo bufen* 世界通史資料選輯：中古部分 (Selected Materials of Global History: Medieval Times), edited by Guo Shoutian 郭守田. Beijing: Commercial Press, 1981.
- Hamble, Richard. *Hanghai de renmen: tanxianzhe* 航海的人們：探險者 (The Explorers: Nautical People). Translated by Jiao Yongke 焦永科 and Zou Deci 鄒德慈. Beijing: Haiyang Chubanshe, 1985.
- Hornby, Albert Sydney, Anthony Paul Cowie, and Jack Windsor Lewis. *Oxford Advanced Learner's Dictionary of Current English*, 3<sup>rd</sup> ed. London: Oxford University Press, 1974.
- Iizuka Koji 飯塚浩二 et al. *Daikoukai zidai: gaisetsu nenpyou sakuin* 大航海時代：概說・年表・索引 (Great Navigation Age: Generality, Chronology, Index). Tokyo: Iwanami shoten, 1979.
- Ikuta Shigeru 生田滋 et al. *Daikoukai zidai* 大航海時代 (Great Navigation Age). Tokyo: Fukutake shoten, 1986.
- Jian Bozan 翁伯贊, and Zheng Tianting 鄭天挺, eds. *Zhongguo tongshi cankao ziliao: gudai bufen* 中國通史參考資料：古代部分 (Reference of Chinese Universal History: Part of Ancient Era). Vol. 7. Beijing: Zhonghua shuju, 1988.
- Jinian Weida Hanghaixia Zheng He Xia Xiyang 580 Zhounian Choubai Weiyuanhui 紀念偉大航海家鄭和下西洋 580週年籌備委員會, and Zhongguo Hanghai Shi Yanjiuhui 中國航海史研究會, eds. *Zheng He xia xiyang lunwenji* 鄭和下西洋論文集 (Collection of Essays on Zheng He's Expedition). Beijing: Renmin jiaotong chubanshe, 1985.
- Lenin, Vladimir. “Ping jingji langman zhuyi 評經濟浪漫主義 (On Economic Romanticism).” In *Lining quanji* 列寧全集 (Complete Works of Lenin). Vol. 2, edited by Zhonggong zhongyang Makesi Engesi Lining Sidalin zhuzuo bianyiju 中共中央馬克思恩格斯列寧斯大林著作編譯局 (CCCP Editorial and Translation Office for Works by Marx, Engels, Lenin, and Stalin), 102–231. Beijing: Renmin chubanshe, 1959.
- Liang Qichao 梁啟超. “Ershi shiji Taipingyang ge 二十世紀太平洋歌 (Song of the 20<sup>th</sup>-Century Pacific Ocean).” Accessed September 27, 2021. <https://www.shicimingju.com/chaxun/list/1111730.html>.
- Lü Shuxiang 呂叔湘, and Ding Shengshu 丁聲樹, eds. *Xiandai hanzi cidian* 現代漢語詞典 (Modern Chinese Dictionary), 7<sup>th</sup> ed. Beijing: Zhongguo shehui kexue yuan yuyan yanjiu suo, 2016.
- Magidovich, I. P. Магидович, И. П., and V. I. Magidovich В. И. Магидович. *Ochrki po istorii geograficheskikh otkrytij* Очерки по Истории Географических Открытий (The Outline of History in Geographical Discovery). Vol. 2. Moscow: Prosveshcheniye, 1983.
- Ooga Tetsuo 相賀徹夫. *Tanbou daikoukai zidai no nihon <6>: znyou to kussetu* 採訪大航海時代の日本〈6〉：受容と屈折 (To Seek out Japan in the Great Navigation Age <6>: Acceptance and Tortuousness). Tokyo: Shogakukan, 1979.
- Penrose, Boies. *Travel and Discovery in the Renaissance, 1420–1620*. New York: Atheneum, 1975.
- Skelton, Raleigh Ashlin. “Cabot, John.” In *Encyclopedia Americana*. Vol. 11, 678. Danbury: Grolier Inc., 1983.
- Zhongguo Ditu Chubanshe 中國地圖出版社, ed. *Zuixin shijie ditu ji* 最新世界地圖集 (Latest Edition of the World Atlas). Beijing: Zhongguo ditu chubanshe, 1990.
- Zweig, Stefan. *Maizelun de gongji* 麥哲倫的功績 (Magellan's Achievements). Translated by Fan Xinlong 范信龍, Jing Qinsan 井勤蓀, and Zang Le'an 殲樂安. Changsha: Hunan renmin chubanshe, 1982.