CHAPTER NINE

Maritime Transportation Security: "Malacca Dilemma" and "Strings of Pearls"

As an important component of China's energy security, the safety of marine energy transport has aroused great attention in both domestic and foreign academic circles. Among all concepts related with China's energy security, the concept of "Malacca Dilemma" is very popular, which has become synonymous with risk of maritime transport safety in China. "Malacca Dilemma" suggested the excessive dependence of China's oil transportation on the Straits of Malacca and the possibility of the US military blockade and oil containment that would make China's lifeline fragile and vulnerable to energy security plight, and the road to crack lies in expanding land transport routes, developing maritime military power, and so on.

At the same time, the so-called "Strings of Pearls" is very popular in the West, especially in the United States, India, and other countries. Its core contents are as follows. China's construction of ports and other related facilities in South Asia and Southeast Asia along the coast is actually gathering intelligence and preparing for building permanent bases in the future. China's construction of ports in Pakistan, Sri Lanka, Bangladesh, and Myanmar seems to be used commercially, but it will eventually be upgraded and used as naval bases. Such bases would enable China to send its troops to the whole Indian Ocean, challenging America's maritime supremacy, encircling India and threatening the offshore oil channel.

On the whole, although the dependence of China's oil transportation on the Strait of Malacca and other risks of maritime transportation pose some challenges to China's energy transport safety, it is far from what we have imagined. Using the concept of "Malacca Dilemma" to describe the challenge is, to some extent, exaggerated. The main risks of China's maritime energy transport are not the energy embargo and containment of the great powers in wartime, but the piracy, terrorism, and transportation

The Economics and Politics of China's Energy Security Transition.
DOI: https://doi.org/10.1016/B978-0-12-815152-5.00009-9

accidents in peacetime. Similarly, the so-called "Strings of Pearls" is a typical western conspiracy theory, one of the Chinese military threats and expansion schemes that come out of imagination and simple inference. It is the result product of using the behavior patterns and thinking logic to guess China's actions. This was not only pushed by interest groups but also worsened by people who have ideological bias and prejudices to China. To avoid the new security dilemma and strategic confrontation, the parties concerned should downplay the "Malacca Dilemma" and the so-called "Strings of Peals", enhance bilateral and multilateral strategic dialogue and cooperation, reduce mutual misunderstandings and misinterpretations, pay more attention to the real risks in energy transportation security, and enhance cooperation in the management of relevant facilities, improvement of transport channel, and joint researches on alternative routes at sea.

CONCERNS ABOUT THE US OIL EMBARGO AND MARITIME BLOCKADE

In peacetime, whatever important energy transport pharynx and channels, such as the Strait of Malacca and the Strait of Hormuz, all merchant ships enjoy the right to pass freely. Once a country intercepts or obstructs a merchant ship, it is generally considered as hostile or a war declaration. Just as what is discussed in many documents, the "once an event occurs" and "there is special circumstances" mostly refer to the acts of embargo, blockade, and even military conflicts under war or hostility. War or hostility can be divided into two kinds of situations: the war between China and one or several other countries, the conflict or war of low-intensity regions independent of China. Because the threat of the latter is limited and aimed at larger scope, China can solve the energy security challenge by starting energy security emergency response mechanism, strengthening coordination with related consumer power and diplomatic mediation. In the case of the war in China, it is necessary to judge not only the possibility of such a war or military blockade but also whether the military blockade in the state of war involves energy security or military security.

As for the war or military blockade, people are concerned about the possibility of a war between China and the United States or the possibility

of an American naval blockade against China under war. Compared with the piracy issues, many Chinese scholars and common people pay far more attention to the US' control of oil transport lines through the sea embargo in terms of the transport corridors and the Strait of Malacca issues. Moreover, some western scholars have noted that as more and more tankers are shuttling through the ship routes under the American Navy's control, the Chinese fear for the possibility of oil blockade executed by the US navy forces has not alleviated [1]. This anxiety stems from the several factors.

The first one is the great disparity of naval forces between China and the United States. The United States has a strong navy and a relatively strong military control of and influence on maritime transport channels. Technically speaking, America is the world's most powerful and capable country to impose oil blockade on China. The second one is the actions taken by America during the cold war. During this time, America ordered to impose blockade on China, which made the heart of Chinese people still fluttering with fear. America also started wars against countries like Afghanistan and Iraq, made further expansion in the Central Asia, increased military presences around the Indian Ocean, made endeavors to intervene the Strait of Malacca issue and other actions, all of which aggravated Chinese fear about the US oil blockade. The third one is China's increasing demand for oil and the fluctuation of oil market. China's shift from net oil exporter to net oil importer made a strong impact on such traditional Chinese visions as independence and self-reliance. What's worse, due to the substantial increase of international oil price and the acute shortage of energy supply at home and abroad, the sense of Chinese energy insecurity has risen sharply and the attention to energy security problems and the concerns about energy security risks and threats have been, to some extent, exaggerated. The fourth one is the unification of import sources and transport routes. In particular, the excessive dependence on the Strait of Malacca and the relatively weak maritime military forces has caused overapprehension over the possibility of the US executing naval blockade on the Strait of Malacca and other maritime transport lines.

These concerns are partly due to the confused concept of energy security in wartime and peacetime. Confusing the energy supply in wartime with the security of energy security in peacetime, it is inevitable to enlarge the risks and threats of energy transportation and energy security. Many cases, such as "once an event occurs," "emergency" and

"containment of energy throat" mostly refer to energy security risks in the wartime or when two countries are hostile to each other. In fact, the energy security in wartime is very different from that in peacetime. In the event of a war directly involving China, energy security has actually evolved into military security, so the conventional concept of energy security is not applicable, and traditional energy security safeguards have become unable to guarantee the wartime energy supply, such as strategic oil reserves, energy production, and transportation facilities. Instead, they even become the enemies' main military targets in wartime. The sufficiency of wartime energy supply depends mainly on military power, such as the support capacity for transportation lines. In many wars, it seems that energy supply has a direct bearing on the war results, but in fact, the military power is the key for victory.

Meanwhile, energy demand in wartime is vastly different from that in peacetime. In wartime, compared with military security and war victory, economic security and energy security are often relegated to a relatively minor position. Therefore, the main goals of a country's energy security strategy are to guarantee the economic and social stability in peacetime. Although the chances for wars cannot be ignored, the possibility of wars cannot be the precondition for formulating national energy strategies. Energy security measures in peacetime cannot meet the needs of wartime energy security and if the measures of wartime energy security safeguards were used in peacetime, the price would be very costly and the negative impacts would be immeasurable. Instead of confusing energy security strategies in wartime from those in peacetime, we should distinguish them and realize that the two cannot be replaced by each other.

THE RELATIVE DIFFICULTY OF THE US OIL BLOCKADE AGAINST CHINA

With the deepening globalization and deepening interdependence between China and America, the oil embargo imposed by the United States against China cannot be completely excluded, but this possibility is not very high, but being gradually weakened. The deepening of globalization and the new development of international politics make war between great powers more and more unimaginable. With the deepening of economic globalization and the deepening of interdependence between

China and the United States in many fields, such as trade and investment, the two countries have become the fate community of shared future, and the war and the military blockade will make both countries suffer great losses. China surpassed Canada as the largest trading partner of the United States in 2015. More and more Americans realize that China's economic growth has become the important factor to promote the economic prosperity of the United States and the whole world.

In the context of global energy market integration, the goal of America to curb the Chinese economy through oil blockade also becomes very difficult to achieve. Both China and the United States maintain rapid economic growth momentum and they are both major world oil consumers and importers, so both of them need stable and reliable energy supply in hope of the stable oil prices. There is only one oil market in the world, and any oil supply disruptions in the world will impact the global oil market, threaten global oil security, and affect world economic growth. Under the globalization, it is difficult for the United States to remain immune from others' influence. Therefore, whether the Sino-American conflicts in the oil field or Chinese economic recession resulting from energy shortage, their ultimate aftermath is the damage to the interests of both sides. At present, the fear of China's economic rise has changed to some Americans' concern about China's economic slowdown. They fear the shortage of energy supplies could slow down the growth of China's economy and cast a shadow over the outlook on the American and global economic growth.

As far as technology is concerned, it is considerably more difficult for the United States to execute energy embargo or blockade. Although the current naval strength of the United States can support America to impose blockade and embargo on some regions or transport corridors, by depending on its own naval force, it is unlikely for America to achieve a total sea blockade, to cut all China's overseas oil and gas imports. Peter Van Doren, researcher in the Cato Institute in the United States, pointed out that it was very difficult to implement a large-scale oil embargo because America needs to send a very large navy to the long Chinese coast, and this was almost impossible [2].

To execute sea blockade, the United States needs to overcome many technical difficulties. First, it would be difficult to determine whether they are China's own tankers or other country's tankers rented by China if the tankers were intercepted or attacked at sea. Although China's current maritime transport capacity has gradually been enhanced, it is

difficult to get independent of relying on foreign shipping for quite some time in the future. In terms of economy, China needs to pay relatively high costs, but from the point of security, the safety and the difficulty of hostile blockade or attack are greatly promoted. Second, if such a certain transport throat as the Strait of Malacca was blocked, what would be affected will not only be China's goods maritime transportation but also the countries like Japan and South Korea which rely heavily on Strait of Malacca for maritime transport would be severely hit. It is technically impossible to block the strait by only intercepting the targeted country's fleets of vessels. Third, currently, among all containers shipped across the world's oceans, about one-fourth of the transported products are made in China, so it is also technically difficult to intercept Chinese tankers without affecting the transport of these goods. Thus, once the embargo is imposed, it will not only be confined to the oil field but also may be an overall economic and trade embargo.

Historically, it was often difficult for the embargo to achieve its goal, and especially in the context of deepening globalization, it becomes more and more questionable in its effectiveness. The embargo is only taken as a political show most of the time, and its effect is very limited in economy. As stated earlier, the embargo imposed by OPEC in the 1970s did not actually affect the United States, and OPEC's embargo on the United States had only increased transport costs, because at that time much oil was bought by third countries and sold to the United States immediately. Similarly, the US Embargo against Libya and Iran only made the oil companies of France, Italy, Spain, and other countries take the advantage to step in. The United States embargo against Cuba lasting for decades has failed to prevent Cuba from acquiring essential materials, including oil, from other sources.

REAL THREATS IN MARITIME ENERGY TRANSPORT

Compared with the military blockade and embargo executed by big powers, the most realistic threats to energy transport security come from piracy, terrorism, illegal armed attacks, transportation accidents, and so on. Although these threats inevitably pose certain challenges to a country's stable energy supply and increase transport costs, the impacts of these

threats on energy security and national security are relatively limited. Generally speaking, the international community regards the decrease by more than 7% of one country's energy supply resulting from disruptions of external energy supply as the bottom line of starting the energy security emergency mechanism. However, in the above-mentioned threats, although short-term or partial interruption may occur, it is difficult for major energy consumers to cut their energy supply by more than 7%.

Frequent piracy is also one of the realistic threats to energy transport that people have mentioned time and again. In some disputed and unstable areas, piracy is rampant, seriously threatening the safety of the passing merchant ships. After the end of the cold war, the number of pirate attacks increased, from an average of 6–7 times before 1989 to 50 in 1991 and to 469 in 2000. According to the report made by International Maritime Bureau's Pirate Reporting Center in Kuala Lumpur, there were more than 370 pirate attacks in 2002, with an increase by 10% from the previous year. The world's annual direct losses resulting from piracy are tens of billions of dollars. The waters near West African coasts, Somalia Peninsula, Red Sea, Aden Bay, Bay of Bengal, and Strait of Malacca are pirate-prone areas, among which Southeast Asian waters, including Strait of Malacca, are currently the areas where piracy is most rampant in the world. From 1991 to 2001, among the more than 2000 pirate attacks in the world, more than 1600 pirate attacks occurred in Southeast Asia, accounting for about 66% of the total pirate attacks in the world [3].

The piracy can be defined to a certain extent as illegal armed attacks at sea or organized crime. The main objective of piracy is for economic interests, so it is their preference to directly ransom money. Compared with other merchant ships, attacking larger tankers not only bears high costs and difficulties but is also less profitable. Even if some small tankers were attacked, their losses would be relatively limited and it was difficult to pose big threats to the energy security of a country. At the same time, as the problems of piracy become more and more salient, the international community will also make more effort to crack down on pirates, so their living space will become limited day by day.

In July 2010, the German *Journal of Science and Politics Foundation* published the article "The Economic Cost of Maritime Piracy," pointing out that Strait of Malacca and Aden Gulf were relatively vulnerable to piracy. In 2009, a total of 406 ships were attacked by pirates, among which 27% were targeted for bulk cargo carriers (109 ships), 16% for container ships

(63 ships), and 15% for single-piece cargo carriers (53 ships). Oil tankers were also important targets of piracy, with 11% for tankers transporting chemicals (46 ships) and 10% for oil tankers (41 ships).

But in terms of losses, the direct losses caused by piracy are limited compared with the world's maritime trade value. According to the article "The Economic Cost of Maritime Piracy," the world's maritime trade value was $11.8 trillion in 2008. Every year, the losses caused by the thefts on land are from $30 to $50 billion, while those by piracy and armed robbery are from $500 to $25 billion, far below the costs of land transport. In addition, the likelihood of pirate attacks is relatively small. For example, in 2009, the number of ships going through Aden Gulf was around 20,000 while the likelihood of pirate attacks was about 0.58%.

In recent years, the number of incidents of terrorist attacks targeted at energy facilities has increased, with terrorism as a major real threat to energy transport. In early October 2002, a French oil supertanker chartered by the Malaysia International Petroleum Corporation suffered a bomb attack of terrorist suicide on the coast of Yemen. As a result, the tanker, carrying 400,000 barrels of oil was severely damaged and one crew member died. Afterwards, the Al-Qaeda said the attack was not an accidental attack on a passing tanker and claimed a threat to oil facilities in the gulf region and international oil transport lines. In October 2002, an explosion at the Bali nightclub in Bali, Indonesia, aroused great concerns about other targets in this area that were likely to be attacked by terrorists, such as Strait of Malacca. In early November 2002, an insurance company specifically issued "war insurance" for oil tankers shipping through Indonesian ports.

But overall, the attacks on energy facilities are mostly on land, more targeted at oil pipelines and refineries, such as the attacks in Saudi Arabia and Iraq. In terms of the nature of terrorism itself, its main objective is to achieve political goals by creating a terrorist effect. Relatively speaking, the costs and losses for attacking landmark buildings and public places are significantly less than that caused by attacks on tankers and ports, but the effects of panic and terror brought by such attacks are far greater than the latter. Even if some oil tankers and ports are attacked, the panic caused by these attacks may have a certain impact on oil prices in the short term, and the losses for energy supplies of a country are relatively limited.

With the substantial increase of energy trade and transportation, the frequency of offshore oil and gas transportation accidents has become higher and higher. Marine transportation accidents mainly refer to the maritime safety problems caused by natural factors such as the sea

topography, heavy fogs, wind waves, and human factors like waterway congestion. In view of the terrain, climate, and other factors, channels which are suitable for offshore oil transportation, especially for oil supertankers, are very limited. In recent years, the rapid development of international trade has increased the number of oil tankers and other transport ships, and the size of boats and ships tends to be larger and larger. As a result, some important channels become congested and the traffic becomes chaotic, aggravating the insecurity in navigation. Among them, the shipping accident rate of the Strait of Malacca is relatively higher. It's over three times than that of Suez Canal and over five times than that of the Panama Canal. There are lots of shoals in Strait of Malacca, of which 37 shoals are only less than 37 m deep. What's more, due to sunken ships, quicksands, sludges, and so on, the waterway often changes, seriously threatening the navigation safety. In 1975, two major oil tanker stranding or collision accidents occurred in Strait of Malacca, and 8900 tons of oil leaked. In 1979, an oil tanker collided with an aircraft carrier, with 10,000 tons of oil leaked, which caused serious pollution. Since the disintegration of the Soviet Union in 1991, exports through the Turkish Strait have increased, bringing about serious threats in navigational safety and environment to Turkish Strait. However, compared to piracy and terrorist attacks, the losses caused by maritime accidents are relatively smaller, and accidents can be reduced by strengthening management and prevention.

ALTERNATIVE ROUTE OF STRAIT OF MALACCA

Due to its unique geographical location, Strait of Malacca occupies an extremely important strategic position in East Asian countries' energy and other goods transportation. Japan's oil transport is highly dependent on maritime transport via Strait of Malacca, and countries and regions such as China, South Korea, and Taiwan are increasingly taking Strait of Malacca as the route. Strait of Malacca is important, mainly because economically it greatly narrows the distance for the East Asian countries and other countries to make cargo transportation. Though the transport advantages of Strait of Malacca are very obvious, it does not mean this strait is irreplaceable, especially in the case of traffic saturation or the frequently occurring security problems.

From a geographical point of view, Sunda Strait and Lombok Strait are two relatively better alternative routes. The transport distance through these two channels is significantly longer than that through the Strait of Malacca, so the transport cost will substantially increase. What's worse, Sunda Strait is shallower and lacks necessary navigational facilities and shipping management mechanisms. As a result, these two straits have not yet been well used and developed at present. However, if Strait of Malacca is saturated with traffic or is impeded by security problems, the two channels will be fully qualified as new important routes. First, transport costs can be solved by increasing the volume of transportation. In the case of extending ship routes, using a tanker with a larger volume of cargo can result in limited increase on unit transportation cost. What's more, in the case of security problems, a slight increase in transport costs has become a secondary consideration. Second, the problems in these two straits will be solved effectively with the increase of transport volumes and the degree of emphasis. At present, the main problems on navigation facilities and shipping management systems are not serious enough and the investment in this aspect is insufficient. Once Strait of Malacca becomes problematic, which would lead to a substantial increase on costs and security risks, the above-mentioned problems can be solved.

Considering the history of the world's marine energy transportation, the birth of the world's most important oil transportation line—Persian Gulf to the Cape of Good Hope to Europe and North America line—is a successful example of bypassing the energy transportation throat and opening new routes. In the 1950s, the oil transport line from Persian Gulf to Suez Canal to Europe and North America was the world's largest offshore oil transport lines. Before the Suez Canal was closed in June 1967,

Of note, 46% exported oil of the Middle East was transported through this canal to the Mediterranean to Western Europe and North America, so the importance of the Suez Canal as the lifeblood of the European and American oil transportation was no less than that of Strait of Malacca for energy transportation in East Asia. However, the Suez Canal was closed in the 50th and 60th of the 20th century with the intensification of the Arab−Israeli contradictions, and frequent conflicts and wars after the founding of Israel. This made a great impact on the energy supply of Europe and America, but prompted Europe and the United States to explore new transportation channels and at last the oil transportation line from the Cape of Good Hope to Europe and North America was opened up.

At the same time, with the progress of ship-building technology and the improvement of port facilities, large oil tankers have been developed rapidly and the traffic volume of tankers has been increasing accordingly. During the period of the Suez Canal crisis in 1956–62, there occurred tankers with oil volume of 100,000 tons and the oil transportation entered "the age of large oil tankers." What's surprising, during the third closing of the Suez Canal (1965–67) [4], there occurred tankers with oil volume of 560,000 tons, and this period was called the "the age of ultra large oil tankers." It is these supertankers that have made the oil transport line of the Persian Gulf to Cape of Good Hope to Europe and America replace the world's most important oil transport line—the Suez Canal route. Although the new route has been greatly farther in distance, the total energy transport costs have not increased much since the unit oil volume of oil tankers have increased substantially. At the same time, since the Suez Canal was reopened, because of increased freight costs and its inability to pass large tankers, the volume of oil shipped through it was greatly reduced, and its position in the world's energy transport declined considerably. Over the years, to increase revenues, the Egyptian government has no choice but to dig the canal deeper and wider so as to allow larger tankers to pass.

There are some similarities between the problems of Strait of Malacca and the Suez Canal. Although the transport conditions of Strait of Malacca are superior to Suez Canal, there are also many deficiencies. Some areas are narrow and some areas are not deep enough, so giant tankers are restricted. For example, Japan's tanker with the volume of 500,000 tons cannot pass Strait of Malacca, so it can only choose to bypass Lombok Strait. Thus, the traffic congestion problems in Strait of Malacca can be alleviated by making larger oil tankers bypass Sunda Strait and Lombok Strait. Strait of Malacca belongs to the high sea, and countries along the strait are not charged like those along the Suez Canal. However, with the rapid growth of traffic and the rise of piracy and terrorism, the cost of ensuring this route safe and unobstructed has greatly increased. Therefore, in recent years, the public has raised the problem and proposed to increase input through charging states along the strait and other means to improve the facilities and safeguard navigation safety. Therefore, with the increase of the cost of passing Strait of Malacca, the economic feasibility of the new route development will be increasingly greater.

TRANSPORT RISKS THROUGH LAND ROUTES

In order to alleviate the increased risk of maritime energy transport, it is a reasonable choice to open up new land transport routes. Considering the characteristics of land transportation, oil and gas pipeline is undoubtedly the most important link. However, considering the flexibility of sea transport channels, the substitutability of such transport pharynx as Strait of Malacca, and the relatively limited threats of piracy, terrorism, and transportation accidents to energy security, it is necessary to act in caution and take various factors into consideration, especially cost, market operation, and environmental protection in order to choose suitable land transportation routes.

As for security, land transport does not fundamentally eliminate the safety risks that people are concerned about. If it were true that the United States was to impose an oil embargo and a sea blockade on China, the United States would also take other measures to combat land-based energy transport in order to curb China's growth or punish China. During the war, oil and gas pipelines will also be the target of military strikes, which has been verified many times in wars and conflicts. Moreover, from the military and technical point of view, cutting off land and oil pipelines is far easier than the offshore oil embargo and blockade, and the cost is much lower.

If the fear comes from piracy and terrorist attacks, then oil and gas pipeline transportation also faces similar risks. The only difference here is that pirates are replaced by anti-government armed forces or organized criminals. In many countries, anti-government armed forces take oil transport corridors as an important target of attack. In Colombia, the 306-km-long oil pipeline located in the Departamento de Putumayo and del Nariño is often targeted by anti-government armed forces. In 1999, this pipeline was bombed up as many as 152 times [5]. In Pakistan, guns and weapons in the remote area of northern Baluchistan province have been flooding. Tribal violence has frequently occurred. Oil facilities such as oil and gas pipelines are frequently attacked by local tribes. On terrorist threat, the vulnerability of pipelines makes them vulnerable to terrorist attacks. As early as in 1981, the report issued by the US Department of Defense warned people to pay more attention to whether important oil and gas pipelines would be damaged by terrorist attacks [6]. After the September 11 event, people's fears were further aggravated. In the

summer of 2001, a pipeline linking Saudi Arabia's largest oil terminal was attacked by terrorists.

Oil and gas pipelines will also be faced with transportation accidents such as the loss of self-efficacy and man-made destruction, and the chances of accidents are often greater than those of maritime transportation accidents. Accidents occur frequently with the extensive laying and extended running time of pipelines. Once a leak or break occurs, the environment and people around it would suffer from a serious impact. According to statistics, during the period from 1970 to 1984, 5872 accidents occurred in the US natural gas long-distance and gathering pipelines, and the annual average accidents were 404 times. For Kazakhstan's pipelines and its supporting facilities which were designed and constructed in the 1960s and 1970s, two or three accidents occur every year and the oil leakage exceeds 200 tons [7].

As for the flexibility and mobility of transportation, oil and gas pipeline is obviously inferior to maritime tanker. Although pipeline is the convenient means of transporting oil and gas by land, it is very vulnerable. Oil and gas pipelines last long distance, many of which pass through complicated and turbulent areas. Compared with ocean transportation, their flexibility is poor, and the safety risks are relatively large. A simple explosive device can make it break down. When piracy or terrorist attack or an oil and gas transportation accident occurs in a maritime transport channel, other oil tankers may make a detour. Although the distance is prolonged, the continuity of supply may be guaranteed. However, when an attack or an accident happens to the pipeline, it is very passive, with only little or no substitute pipeline, so the transportation interruption is difficult to avoid, and the recovery time is long. Comparatively speaking, the cost of ensuring the safety of oil and gas pipelines is often higher than that of marine transportation.

In terms of economic benefit, oil and gas pipeline transportation is obviously inferior to sea transportation. Ocean transportation, with large-volume strong passing capacity and relatively low cost, accounts for a large majority of international energy trade, especially oil trade. In 2000, the total tonnage of goods shipped by sea was 5.5 billion tons, accounting for 95% of world trade by weight. Among them, energy accounts for about 50% of the total cargo transport (crude oil accounts for 30%). Oil and gas pipeline is the best choice for land oil transportation and it is an important supplement to sea transportation, but its construction cost is high and the construction time is long. According to statistics, from 1992 to 2001,

the international community invested up to 15 billion dollars in the Caspian pipelines, surpassing the investment of $13 billion in oil and gas development. In addition, the transit fee also increases transportation cost. It is estimated that Turkey earns $300 million transit fee per year from the Baku–Ceyhan pipeline [8].

The construction and operation of transnational oil and gas pipelines are also greatly influenced by such factors as geopolitics and interstate relations. Some countries, out of political and diplomatic considerations, use oil and gas pipelines and energy as their trump card to occasionally push or block at any cost the construction of a pipeline which is highly related with interests. On the Caspian oil pipeline issue, oil and gas pipeline became geopolitical bargaining chips in the political and diplomatic contests among the countries concerned. The Baku–Ceyhan pipeline becomes a typical politicized pipeline, which was eventually completed with strong support from the United States, Britain, and other countries, while the construction of the pipeline passing Iran failed because of the western opposition.

It was many years ago that India agreed with Iran and other countries to import natural gas through pipelines, but it has long been shelved because of the fears that the pipeline going by Pakistan will not safeguard its strategic interests. In recent years, although Pakistan has become more and more positive, it encountered more resistance from the United States. To restrain the energy cooperation among India, Pakistan, and Iran, the United States has for many years strongly supported the construction of the Turkmenistan–Afghanistan–Pakistan–India gas pipeline (TAPI) and suppressed the long-planned Iran–Pakistan–India pipeline (India exited later). The former US Secretary of State Hillary Clinton even threatened with financial sanctions. However, in March 2013, the construction of the Iran–Pakistan natural gas pipeline (IP) was officially started, which not only made the long-dragged construction of the TAPI pipeline in danger of being shelved but also may make an impact on South Asia, Central Asia, and the surrounding complex geopolitical situation.

The European Union has always been trying to reduce its dependence on Russia, so it favors the Central Asia "Nabucco" gas pipeline project, which bypasses Russia. However, Russia took tit-for-tat actions. It started "North Stream" and "South Stream" projects and in order to split EU and draw some of EU countries to its side, called on some of them to participate. At present, the first phase and second phase of the "North Stream" project, which bypasses Ukraine to transport gas to EU, has been

successively put into operation in November 2011 and October 2012, and the "South Stream" project, with the source of gas from the Central Asia and the pipeline traversing from the south of Russia to Italy and other countries, was also started in December 2012. However, the EU-led "Nabucco" project made slow progress because of capital and gas source problems. In June 2012, Hungary even announced the withdrawal from the project.

"STRINGS OF PEARLS": A WESTERN STYLE "CONSPIRACY THEORY" COINED IN AMERICA

Back in the late 1990s, the US Southern Command released a report that China was trying to utilize trade port facilities all over the world to control "strategic checkpoints." In early 2005, Defense Department of America issued the report *Asia's Energy Future*, saying China was taking a "Strings of Pearls" strategy whereby China was building strategic relationships along the sea lanes from the Middle East to the South Sea, making defense and offensive gestures to protect its energy interests and serve broad security targets simultaneously. The report also listed six "pearls" in the so-called "Strings of Pearls." The first one is the Gwadar port. The report stated that China was building a new naval base that is only 400 km away from the strategically important choke-point of Persian Gulf—Hormuz Strait. At present 40% of the world's oil supply and 60% of China's oil imports went through Hormuz Strait. Other "pearls" listed in the report were Chittagong in Bangladesh, islands near Bengal Bay and Strait of Malacca, some ports in Cambodia, the canal running through Khokhok Kra in Thailand, and the South China Sea. A famous person in Taiwan also regarded Taiwan as a "pearl." In 2009, during the Sri Lankan civil war, media hyped that China helped to build the Han Bendat port, which was also taken as an extension of the "Pearl Chain Strategy" [9].

In April 2011, Washington Institute for Near East Policy released a report *The New Silk Road: China's Energy Strategy in the Greater Middle East* written by Christina Lin, an energy security and Chinese military policy expert. The report argued that a key element of China's current strategy is to develop a "Strings of Pearls" from the Indian Ocean coast to the Persian Gulf and the Mediterranean to enhance military and geopolitical

influence. This "Strings of Pearls" nodes mainly included port and military facilities of Hainan Island, Vietnam, Thailand, Myanmar, Sri Lanka, Pakistan, the South China Sea, Strait of Malacca, and other countries and regions. In addition, China planned to set Greece as a new node in the Mediterranean.

In the process of "going out," many China's infrastructure enterprises, because of their commercial competitiveness, have secures contracts for port construction projects of many developing countries, some of which are located on the Indian Ocean coast, so objectively speaking, they have some potential strategic significance. However, signing contracts or providing assistance in the construction of port facilities is different from "building overseas military bases." Judging from many signs, these port projects are based on their own simply commercial purposes. Perhaps, some of the projects are consciously promoted to the height of the foreign strategy at the domestic argument stage, but such an assertion aimed to pass the Chinese government's approval on foreign exchange, instead of a "far-sighted and consistent" overall strategic planning [9]. With the economic development, military modernization has become a natural tendency and an urgency to resist foreign threats. China makes an endeavor to enhance its military power in purpose of its political, economic, and diplomatic goals, and it does not necessarily mean invasion or coercion. Arguments about "Strings of Pearls" are going off the right track, and China's primary purpose of assisting countries in ports development is to improve the capacity of these ports and the operations belong to commercial entities.

On May 27, 2011, Ashley Townsman, an assistant researcher at the Australian Institute for International Policy Research, published an article in *The Australian Journal*, arguing that the assumptions about China's "Strings of Pearls" are questionable. He points out that Chinese state-owned enterprises funded the commercial ports in South and South-East Asia, but there is no indication that they are used for military purposes. They are all undefended container terminals, only to serve as links between the offshore supply chain and the growing network of roads, railways, pipelines, and airports. Most ports are used to connect trade channels between China's southwest inland and Indian Ocean. Beijing's strategic interest in the west area to Singapore lies in energy security rather than maritime hegemony.

Ashley Townsman further stresses that the South Asian maritime infrastructure under construction will provide a range of useful ports for naval vessels repair, refueling, etc., and it will not be exclusively monopolized

by Beijing. Chinese warships when making regional "goodwill visits" or carrying out anti-piracy missions will certainly take advantage of the Indian Ocean port, and so will other navies in the region. It is very far-fetched to say these "pearls" will become China's strong naval bases. At the same time, turning "soft" commercial ports into "hard" naval bases is no easy task. To achieve militarization of the Indian Ocean's facilities, Beijing must be conditioned with air defense, arsenal, and troops. The cost of these reforms is huge, perhaps beyond the technical, logistical, and expeditionary levels of Chinese army, and such bases are vulnerable to attack. The Indian Ocean is dominated by American and Indian armies, and China's strategic power in the region has been dwarfed. Beijing also lacks experience in deploying military forces abroad [10].

Shi Wen (Michael D. Swaine), an expert on Chinese issues, published the article *China's Military Power* on the website of *Carnegie Endowment for International Peace* in the United States, asserting that the argument about pearls is wrong. In his view, this concept, formed in the west, aims to prove China's obtaining of some strategically important bases and port facilities in Pakistan, Bangladesh, and Myanmar, but it is found groundless when carefully studied. Although China has been assisting governments and nations to develop ports with the help of its domestic companies, the main purpose of such assistance is to improve the capacity of these ports to operate as commercial entities and to build facilities, through which resources can be transported to the mainland. There is little evidence that Chinese troops are involved. At first glance, this idea sounds fascinating and reasonable, but if you look carefully at all the details, you will find flaws.

DIRECTION TO FUTURE COOPERATION

In recent years, the Strait of Malacca problem has aroused more and more concern in the countries concerned. In addition to China, Japan, Korea, and other countries highly depending on the Strait of Malacca for energy transport and Indonesia, Malaysia, Singapore, and other countries along Strait of Malacca, the United States, Australia, India, and some Southeast Asian countries have also showed great interests in the Strait of Malacca problems. Although the security stability of Strait of Malacca and their surrounding areas has become a topic of common concern to the

countries concerned, due to different starting points and diverse interests, every country has adopted different attitudes and taken different measures. Thus these differences and their concerns about the security in this region have, to some extent, triggered a new security dilemma.

Concerns about the safety of energy transport are two-way and even multidirectional. For example, China showed concerns about the United States' control over oil and gas shipments, while the United States thinks that it is the countries like China and India that have the capacity to pose a threat to oil tanker safety. To get rid of America's control over shipping lanes, strengthening naval power to defend maritime lanes is considered as a choice. Frankly speaking, the development of military capabilities, including the navy, is an important component of enhancing the overall strength and achieving balanced development of a country, but it is crucial to take into account many factors to determine what development strategies should be adopted. In terms of marine energy transportation security alone, naval escort mainly occurs during war or harsh times. It is not reproachable for a country to develop its navy, but if we combine the development of the navy with the protection of the marine lanes, not only can the maritime transportation security issues in peacetime be solved but also it can cause off-track associations and suspicions among the countries concerned.

In recent years, the emergence and popularity of the so-called "Strings of Pearls" has been much related to such a formulation. In fact, only in the analyses and discussions of some scholars, such a statement like China's development of the Navy in defense of maritime transport lines can be found. There is no sign that it has been elevated to national energy security policy or the government has made substantive moves and arrangements in this respect. And some more realistic analyses also pointed out that however hard China has worked to reinforce its navy strength, for quite a long time, it still cannot compete with the US navy and cannot achieve the goal of defending maritime lifeline and executing maritime escort.

Linking up the enhancement of naval strength with the safety of sea lanes has not only aroused concerns and a series of responses of the United States, but also such countries as Japan, Australia, India, and Indonesia. Due to the fragility and political sensitivity of Strait of Malacca, China's excessive involvement in Strait of Malacca affairs will inevitably cause suspicions about China's military purposes from the countries in this region. These concerns and doubts will further catalyze the "China Energy Threat Theory," which will aggravate the risk of

China's energy transportation security. Under the condition that the main threats to China's maritime transport are clarified to be piracy, terrorism, transport accidents, and other factors in peacetime, we should pay more attention to detailed technical matters like how to cooperate with related countries in this region to combat pirates and terrorism, how to prevent and reduce transportation accidents by sharing expenses, providing relevant assistance and other ways, how to establish and improve the domestic emergency response mechanism, and so on.

Similarly, some of the initiatives taken by the countries concerned around the Strait of Malacca and the transport corridors have also aroused intense concern and sense of insecurity in China and many other countries. The US' attempt to garrison troops in Strait of Malacca has aroused great concern from Asian countries and has also been opposed by coastal states. America's efforts to set up a US—Japan—Australia—India security alliance will inevitably exacerbate the fears in China. Japan has invested a large amount of financial and material resources to improve the equipment of the maritime self-defense forces, enhance the capability of naval operations and long-range attacks, and expand the scope of action aimed at the so-called "surrounding events."

In as early as 1970s, India put forward "Indian Ocean Control Strategy" in its military strategy of protecting land and controlling sea. In recent years, it has become more and more rampant in conducting its military strategies. It founded the East Naval Command, which has paid watchful attention to areas from the Arabian Sea to the South China Sea. These have aggravated, to a certain degree, the anxiety of China and other countries and regions about the safety of transport corridors and the regional safety.

In recent years, China's transnational pipeline construction has made a major breakthrough. Several land pipelines have greatly increased the diversification of China's oil and gas import sources. However, on the whole, China's energy is mainly imported through sea transport, and for a long time it is still very hard for China to get rid of its dependence on Strait of Malacca to export oil and gas. Most of China's energy imports need to pass through Strait of Malacca and other sea channels. Nearly 90% of imported crude oil and half of imported natural gas are transported via sea. In April 2017, China—Myanmar oil pipeline was officially opened, but its daily oil delivery was only 400,000 barrels, equivalent to only 1.04% of China daily crude oil imports in 2016, so it is still impossible for China to fundamentally get rid of dependence on this channel for importing crude oil.

In order to shake off the risks of arms race featuring the pattern of stimulation—response—restimulation—response and get out of the new security dilemma resulting from mutual suspicion, the countries concerned should proceed from both strategic dialogue and substantive technical cooperation to address the security issues about Strait of Malacca and other transport corridors. First, strategic dialogue and communication should be strengthened to eliminate and mitigate many misinterpretations and misunderstandings about the safety of energy transport at home and abroad. It should be realized that the views of the media and scholars are not equal to the government's intentions, and it does not mean that the government has adopted the same policies. China's current sense of insecurity on the energy issue stems, to a certain extent, from the international community's rising voices about "China Energy Threat Theory." Furthermore, there are many differences in the legal definition and coping mechanism against piracy. It is vital for the parties concerned to enhance their understanding of energy security risks and countermeasures through more dialogues and communication to eliminate unnecessary misreading. Second, how to strengthen cooperation in the field of technology and concrete operations should be the focus of common attention. These areas include the provision of necessary funds and equipment to improve the channel conditions and safety of Strait of Malacca and to explore the feasibility and related technical and economic problems of opening up new routes like Lombok Strait.

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